SEQUENCE LISTING

```
<110> Ludwig Institute for Cancer Research
      Old, Lloyd J.
      Scanlan, Matthew J.
      Stockert, Elisabeth
      Gure, Ali
      Chen, Yao-Tseng
      Gout, Ivan
      O'Hare, Michael
      Obata, Yuichi
      Pfreundschuh, Michael
      Tureci, Ozlem
      Sahin, Ugur



<120> CANCER-ASSOCIATED NUCLEIC ACIDS AND
   POLYPEPTIDES

<130> L0461/7039/JRV/ERG

<140> Unknown
<141> 1998-07-15

<150> U.S. 08/896,164
<151> 1997-07-17

<150> U.S. 60/061,599
<151> 1997-10-10

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<150> U.S. SNU (LUD5506.1)
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<151> 1997-10-11

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aactgagggg atctctcncg tcacttcacc gagttccgat gtgattcana agggcanttc     180
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gagcattgtt tgaaggatcc tctgcctagt ctattaatca gtttcctttt agacaggtgt     240
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gtttttctca gaagagaatt ccacaaggtt aaatcagcaa acaaagaaaa catggtattt     240
tgaaatatga ttaaactcct gatgctgcag cagaggctaa gaatattaat ggccagatct     300
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cactgtccca gataaccatc ggaacaagtt taaggtcatt aatgtggatg atgatgggaa     420
tgagttaggt tctggcataa tggaacttac agacacagaa ctgatttat acacccgcaa     480
acgtgactca gtaaaatggc actacctctg cctgcgacgc tatggctatg actcgaatct     540
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        <213> Homo Sapiens
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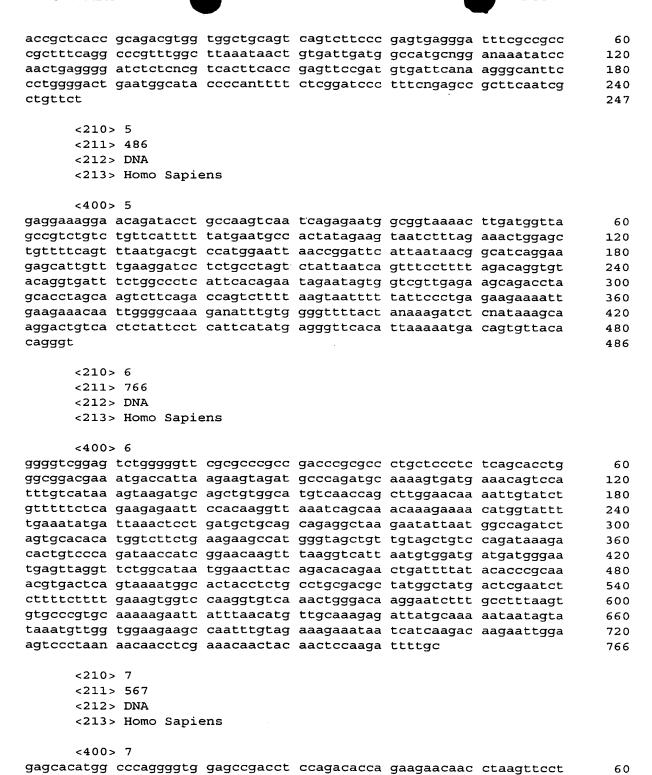
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g                                                                      661
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    <213> Homo Sapiens

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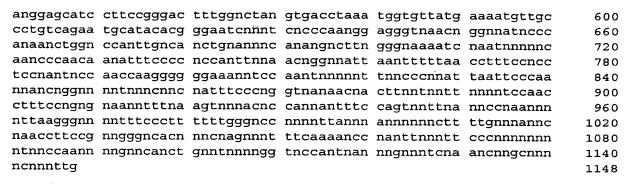
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gctcgtccaa atttccggaa cttggcgtaa atcanngycn aataactgtt tccccngtgt      780
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ttcaatccaa aatnancccca tngnannatt ccanccanna taanaacngg nttnaaatcc      900
cttnncnggg gggaatttgg cccaantatn aaanncntac cnaaaaaccn tccgnnttaa      960
ntccnaaaac ccttttcaaa anttaaacct aannnnnanct ttnnnntaan ccaaanngtt     1020
ncccaaaaan ancttngggg tnaccaaggc aananngttt cccnggttaa aattttttac     1080
ccgcnaaaat tcananaaan tntnnnttan ntt                                 1113


        <210> 17
        <211> 731
        <212> DNA
        <213> Homo Sapiens

        <400> 17
tctagagcct tccccggcca tctacaggca ggatgcggct gggaaaaaga caactggaat       60
ttctcgaagg ttgatggtcc gcacggttga ngattctacg tggttctctt ggttcccctg      120
gtgtgtgtgt gtgtgtggag gangccgcgg cccttagatn accttcttga gctcgtcgta      180
caggaccagc acgaangcgc cccccatgcc ccgcaggacg ttggaccacg caccccttgaa      240
naaggccttg cccccctcat ctctgaagat cttcctccaa cantcgacgg tgcccgtgta      300
catgatgtca gctcctttgc gcccggactg catcatcatt cgccgccgca ccgttcnaan      360
gggtangaca ccacgccggc cacngncgtc acggtctgcg cgatcatcca gctcaccacn      420
atgtgcgtgt tcttggggtc ngggancatn cccttggccg tatcgtanac nccgaantaa      480
gccgcccggt atatnatgat gccctgctcg tgccgaattc ccgggtncca acacaatggn      540
ncgcttcccg aanaaaaaaa ataaaaanct ncgtccaaat ctcggaactt tggcntantc      600
atgggcatan ctgttttccc tgtgtgaaat tntttccgct caacaatttg ctanaantaa      660
```

```
ttttcatttt tttgctcntc nnttatcanc caaanntact cccattantt attccaantn   720
tatnacaaag g                                                          731
```

```
        <210> 18
        <211> 1145
        <212> DNA
        <213> Homo Sapiens

        <400> 18
tctagactat cttcttcatc atcactctct gaatcatgaa cagtaattga ggttggtttt    60
actacacgct gaagaccact gggtcctgct tgttcctcat caacatccac aggaataatt   120
gcctggctgt gagctggagt attatttcca ctctcggcca ccacctctcc atcttcttgg   180
acgatgtctt ccatctcatt taatgcgtca gctgcaaact gctgctctcc tggctgcaga   240
tcttgccgaa agtcattctc ctcgtctgag tcatctggat gatggtgatt gttgtcgtgg   300
atgttggcat tgttattctg ggcattatta tcgtcattgt tggagttctg gttgctaaca   360
agagctgatg aaacaccaat tcctgtgcct gcactcagac caactcgagc acaacccttg   420
ggtggttcac gaaacatctg atccagtgaa ataaactcta ggctgggtaa taattcaata   480
aactggccaa aagagtccag cttcaaagca tggcaccgta ctaggttgat atcaaccaat   540
cgagtccatc ttgagtggtc tgagattcaa ttgtatgggt tgtgtanatn agggcaattg   600
taaattgcca gatatttgnt acaggnaaaa aacttcaatt gactgctttc atccctatat   660
caagtgatga taccaagatt tttctacaaa atcaagccaa accaatactt caccaagatt   720
cggcaattan ccaattccgg ctcctgttnn caaaaaactc atctncaatt atcccaanat   780
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nntnnnnnnn caccaannct tttggtttan gggaangggt nggntttccg aantttttaag   900
gttancctaa cggggnnaan cnanttantg nntnnngggt nanccaannt tttannttta   960
annngncaat ttttttnnaa ncncccaan nannaaanna annnntgnna anttttttna   1020
aaanccncct ggntttccaa antggtnntt ttaaaaaaan nttggggntn annncnnncc   1080
nangggnang gggnannccn nncnaatttt taannggttc caaanttttn ggggantnn   1140
ntttt                                                               1145
```

```
        <210> 19
        <211> 1106
        <212> DNA
        <213> Homo Sapiens

        <400> 19
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actacacgct gaagaccact gggtcctgct tgttcctcat caacatccac aggaataatt   120
gcctggctgt gagctggagt attatttcca ctctcggcca ccacctctcc atcttcttgg   180
acgatgtctt ccatctcatt taatgcgtca gctgcaaact gctgctctcc tggctgcaga   240
tcttgccgaa agtcattctc ctcgtctgag tcatctggat gatggtgatt gttgtcgtgg   300
atgttggcat tgttattctg ggcattatta tcgtcattgt tggagttctg gttgctaacaa   360
gagctgatga aacaccaatt cctgtgcctg cactcagacc aactcgagca caacccttgg   420
gtggttcacg aaacatctga tccagtgaaa taaacctagg ctgggtaata attcaataaa   480
ctggccaaaa gagtccagct tcaaagcatg gcaccgtact angttgatat caaccaatcg   540
agtccatctt gagtggtctg agatccaatt gtatggggtt gtgtanatga nggcaattgt   600
aaattgccaa gatatttga tacaggaaaa aacttcaatg gactgctttc atccctatat   660
cantgatgat accaaggatt ttctancaca tcaagccaaa accaatactt naacaagatt   720
cgcaataacc attctgctcc tgtnncaaaa actcaatcct acaatatcct aaaatnaaag   780
ggnttcaaaa ctggggggaaa actccnaaat tcctgccaat cctttagggg aaaaaaaaag   840
acaccaatcc tttgggttaa gggaaaggnt ggattcngaa actttcaagt taaccttang   900
ggcaaacaan ttaangnatt aagggtaacc aaananttta aatttcaaag nngcaatttt   960
ttgcaancnt nccaaaanaa atanggttgn aaaattttct aaaaccaacc tgatttncaa   1020
aatggtcttt aaaaaaaatt ttggntnaaa accttcaaag gaaagggaa cccaaccaan   1080
tttcaaannn nttccaaant tnngtt                                        1106
```

```
<210> 20
<211> 484
<212> DNA
<213> Homo Sapiens

<400> 20
acctgaaagc aagcccatta tgacaagctc agaggctttt gaacctccaa aatatttaat      60
gcttggtcaa caggcagtag gtggagttcc cattcagcct tccgtaagga ctcagatgtg     120
gcttacagag cagctgcgga caaatccttt ggaaggtaga aatacagagg attcttacag     180
tttagctcct tggcaacagc agcaaattga anactttcga caaggaagtg aaacaccaat     240
gcaggttttg actggatcat ctcgtcaaag ttattcacct ggctatcagg atttcagtaa     300
gtgggaatcn atgttgaaaa tnaaagaagg acttctaagg cagaaagaaa ttgtantcga     360
tcggcagaag caacnaatta cccacctgcn tnanangata agggataatg aattaccggc     420
tcnncatgcc atgttaggac attatgtnaa ttgtgaggat tcttatgtgg ctagtttgca     480
ccac                                                                  484


<210> 21
<211> 355
<212> DNA
<213> Homo Sapiens

<400> 21
cttccaagtt gctcttatca ggtactgctg atggtgcaga cctcaggaca gtagatccag      60
aaacacaggc tagactggaa gctttactag aagctgcagg aataggaaaa ttgtccacgg     120
ctgatggtaa agcctttgca gatcctgaag tacttcggag gttgacatcg tctgttagtt     180
gtgcgttgga tgaanctgct gctgcactta cccgtatgag agctgaaagc acagcaaatg     240
cagggcagtc ggacaaccgc agtttggcng aagcctgttc anaaggagat gtaantgctg     300
tgcgaaagtt actcattgaa gggcgaagtg tatttgaact cccngaggaa gggga          355


<210> 22
<211> 1070
<212> DNA
<213> Homo Sapiens

<400> 22
atgaaaaaga acaggataaa ccacctaatt tggttctgaa agataaagta aagcccaaac      60
aggatacaaa atacgatctt atattagatg agcaggccga agactcaaaa tcaagtcact     120
cacacacaag tnaaaaacac aagaagaaaa cccatcactg ttctgaagag aaagaagatg     180
aggactacat gccaatcaaa aatactaatc aggatatcta tagagaaatg gggtttggtc     240
actatgaaga agaagaaagc tgttgggaga aacaaaagag tgaaaagaga gaccgaactc     300
agaaccgaag tcgtagccga tctcgagaga gggatggcca ttatagtaat agtcataaat     360
caaaatacca aacagatctt tatgaaagag aaaggagtta aaagagagac cgaagcagaa     420
gtccnaagaa gtccnaagat aaagaaaaat ctaagtntng atgaaagatg aagaggcaga     480
attgagaggc taacatattt actcttgtct aacttaagag tgccaggaaa gcagatgctt     540
agattttgtg tccaagcttg ttattttttt canactagga ttatggtctt tagattaata     600
cngatnatat agagcacgga aagataaaga attgaacatt ttcttngtat actttttac      660
actaatttca ttgctatacn taaanggtag tnttcatttt ctgaagtcta acattttcac     720
tcttttttta atgnagtatt tcatactaca aaaatacatn nacgtatata taaagggata     780
ataaangtan atatntgtgt antcatcagc cagcttaaga tacagatgtt gtcgacattt     840
tagaagttcc ctaaggccct ctccctctca ataattatt tggaattttg tgtttgtcat      900
ttgtctatta tagttttaca acanacgtat gtatntgtaa gtgaaatgtt aantttgtat     960
gtttctgaat tttatataaa tggcaaaang tttacttntg tgactttctt tcattttat    1020
tgntanatag tattatataa atatactaca acttattcat ttcttgatgg               1070


<210> 23
```

```
        <211> 861
        <212> DNA
        <213> Homo Sapiens

        <400> 23
gaaagaccca ggagaagccg cccaaagaac tggtcaatga gtggtcattg aagataagaa      60
aggaaatgag agttgttgac aggcaaataa gggatatcca aagagaagaa gaaaaagtga     120
aacgatctgt gaaagatgct gccaagaagg gccagaagga tgtctgcata gttctggcca     180
aggagatgat caggtcaagg aaggctgtga gcaagctgtn tgcatccaaa gcacacatga     240
actcagtgct catggggatg aagaaccagc tcgcggtctt gcgagtggct ggttccctgc     300
agaagagcac agaagtgatg aaggccatgc aaagtcttgt gaagattcca gagattcagg     360
ccaccatgag ggagttgtcc aaagaaatga tgaaggctgg gatcatagag gagatgttag     420
aggacacttt tgaaagcatg gacgatcagg aagaaatgga ggaagaagca gaaatggaaa     480
ttgacagaat tctctttgaa attacagcag gggccttggg caaagcaccc agtaaagtga     540
ctgatgccct tccagagcca gaacctccag gagcgatggc tgcctcagag gatgaggagg     600
aggaggaaga ggntttggag gccatgcagt cccggctggc cacantccgc agctaggggc     660
tgccnacccc gctgggtgtg cacacactcc tntcaagagc tgccatttta tgtgtntctt     720
gcactacacc tctgttgtga ggactaccat tttggagaag gttctgtttg tctcttttca     780
ttctctgccc aggttttggg atcgcaaagg gattgttctt ataaaagtgg cataaataaa     840
tgcatcattt ttaggagtat a                                               861

        <210> 24
        <211> 985
        <212> DNA
        <213> Homo Sapiens

        <400> 24
agggctcccg ggaagaaaca ctggcatttg tccctttgct tcggcttctg gaggcagana      60
ctctgagccc agggagagcc ttctgcagcc ccatttcctc aaaaatccaa cctgcccagg     120
tggcgggtca tgagctgtgc tcaggaagct ggaatctgac cctggtggcg tcgggcccag     180
tctccatggc agccgagcat ttattacccg ggcctccacc cagcttggca gactttanac     240
ttgaggctgg aggaaaggga actgaacgcg gttctgggag cagcaagccc acgggtagca     300
gcggaggccc cagaatggcc agtttntttc ccaagaccaa atttaatgag tacaaggatg     360
ttcttccctg tatgacaagc agcagagggg aagataaaag ccaccgactt catggtggcc     420
atgaggtgcc tgggggccag cccgacgcca ggggaggtgc agcggcacct gcagacccac     480
gggatagacg gaaatggaga gctggatttc tccacttttc tgaccattat gcacatgcaa     540
ataaaacaag aagacccaaa gaaagaaatt cttctagcca tgttgatggt ggacaaggag     600
aagaaaggtt acgtcatggc gtccgacctg cggtcaaaac tcacgagtnt gggggagaag     660
ctcacccaca aggaagtgga tgatcttttc agggaagcag atatcgaacc caatggcaaa     720
gtgaagtatg atgaatttat ccacaagatc acccttnctg acgggacta ttgaaggagg     780
agaatgggag agcctccct gggcctgaaa acttggagca attaattttt tttaaaaagt     840
gttctttca cttgggagag atggcaaaca cagtggcaag acaacattac ccaactatag     900
aagagaggct aactagcaac aataatagat gatttcagcc atggtatgag tagatctta     960
ataaagatt tgtattgatt ttatt                                          985

        <210> 25
        <211> 545
        <212> DNA
        <213> Homo Sapiens

        <400> 25
ctctctgctg catgcactat tgctgtaagt cttgctggaa tgagtacctg acaactcgga      60
tcgagcagaa ccttgttttg aattgcacct gccccattgc cgactgcccc gcccagccca     120
ccggagcctt cattcgtgcc atcgtctcct cgccagaggt catctccaag tatganaagg     180
cgctcctgcg tggctatgtg gagagctgct ccaacctgac ctggtgcacc aaccccagg     240
```

```
gctgcgaccg catcctgtgc cgccagggcc tgggctgtgg gaccacctgc tccaagtgtg      300
gctgggcctc ttgcttcaac tgtagcttcc ctgaggcaca ctaccctgct agctgtggcc      360
atatgtctca gtgggtcgat gacggtggct actatgacgg catgagcgtg gaggcgcana      420
ncaagcacct ggccaagctc atctccaagc gctgtcccag ctgtcaggct cccatcgaga      480
anaacgaagg gtgcctgcac atgacctgtg ccaaatgtaa ccatggattc tgctggcgct      540
gcctc                                                                   545
```

```
        <210> 26
        <211> 374
        <212> DNA
        <213> Homo Sapiens

        <400> 26
gggaaaaggg cctccacatt gatcagctgg tttgtctggt gctggaggcc tgncagaagg      60
gtccaaatcc tcctggaacc ctgggccaca ctgttgctgg gggtgtggcc tgtaccacta     120
canatgtcct ctcttgcntc ctgcacctct taagccaggg ctacntgaaa cngcgtgatn     180
accggcccca aatcctgatg tatgccgctc catancccat ggggccctgc cggggtcntg     240
cacatntcnc tttctgtggc agccanagcc aaacctccca ncccncccca aaacctgtgg      300
ctaccctgnn atctctacan ctgccttgcn ngccgcttcn tnanccncca ctaaaatnta     360
acggttgatt aacc                                                       374
```

```
        <210> 27
        <211> 552
        <212> DNA
        <213> Homo Sapiens

        <400> 27
cacaaacctt gcaatccaag ggaaaaggag cgaatccaaa atgcaggagg cagcgtgatg      60
atacaacgtg ttaatggttc attagcagta tctcgtgctc tgggggacta tgattacaag     120
tgtgttgatg gcaagggccc aacagaacaa cttgtttctc cagagcctga ggtttatgaa     180
attttaagag cagaagagga tgaatttatc atcttggctt gtgatgggat ctgggatgtt     240
atgagtaatg aggagctctg tgaatatgtt aaatctaggc ttgaggtatc tgatgacctg     300
gaaaatgtgt gcaattgggt agtggacact tgtttacaca agggaagtcg agataacatg      360
agtattgtac tagtttgctt ttcaaatgct cccaaggtct cagatgaagc ggtgaaaaaa     420
gattcagagt tggataagca cttggaatca cgggttgaag anattatgga gaatctggcg      480
aagaangaat gcctgatctt gcccatgtca tgcgcatctt gtctgcagaa aatatcccaa     540
atttgcctcc tg                                                         552
```

```
        <210> 28
        <211> 502
        <212> DNA
        <213> Homo Sapiens

        <400> 28
ctgacctgcc cacactggaa gaccatcaga agcagagcca gcagcttaag gattctgagt      60
tgaagagcac agagctgcag gagaaagtga ctgagctgga gagtttgctg gaggagaccc     120
aggcaatctg cagagagaag gagattcaac tggaaagcct gaggcagaga gaagcagaat     180
tctcctccgc tggacatagc ctgcaagata aacagtctgt ggaggagacc agtggagaag     240
gtccagaagt ggaaatggag tcctggcaga agcgatacga ttcgctccaa aagattgtgg     300
agaagcagca gcagaagatg gatcagttgc gctcacaagt ncagagccta gagcaggaag     360
tggctcnaga agaaggaaca agccaggccc tgagagagga ggcccagcga agggattcag     420
ccctgcagca gctgcgcaca gccgtgaagg anctttcagt gcnaaaccag gacttgattg     480
agaagaatct gacactccag ga                                              502
```

```
        <210> 29
```

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```
<211> 537
<212> DNA
<213> Homo Sapiens

<400> 29
gctttgggga ctcagtggac tgctctgact gctggcttcc ggtggtgaaa ttcatcgagg    60
agcaatttga gcagtacctt agggatgaga gtggcctgaa ccggaagaac atccaggact   120
cccgagtcca ctgctgcctc tacttcatct cacccttcgg ccgggggctc cggcccctan   180
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aagtggtgag ggatggcggg aaccggccgg tgaggggacg ccgctactcc tgggggaacg   480
tggaagtgga naaccacatc nctgcgattt cctgaacctg cgacggatgc tggtgca      537


<210> 30
<211> 3872
<212> DNA
<213> Homo Sapiens

<400> 30
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tcggacatca caagtagtag aacaagatgt gcccgaggca agtagacagg gccaaagaga   120
aaggaatcgg cacaccacag cctgacgtgg ccaaggacag ttgggcanca gaacttgaaa   180
actcttccaa agaaaacgaa gtgatagagg tgaaatctat gggggaaagc cagtccaaaa   240
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cagaatgtaa cttcacaacc aaaaagtacg actccctatc cgaccacaac tccaagttcc   420
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agcgcttaaa gcatggcatc agctggtccc cagaagaggt ggaggaggcc cggaagaaga  1020
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cccccacaaa gatgacgcag cccatcctcc agacggctct accgtgccag atcctcggcc  1140
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tcacacttgc cgtggcagga gtcaccaacc atggccagaa gagacccttg gtgactcccc  1260
aagctgcccc cgaacccaag cgtccacaca tcgctcaggt gccagagccc ccacccaagg  1320
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ttcctaccca agcagaactg gatcggctaa gggtggagac caagctgagc aggagagaga  1740
tcgactcctg gttctcggag aggcggaagc ttcgagacag catggaacaa gctgtcttgg  1800
attccatggg gtctgggcaa aaaaggccaa gatgtgggaa gcccccaatg gtgctctgtc  1860
tcgactcgaa cagctctccg gtgcccagtt aacaagttct ctgcccagcc cttcgccagc  1920
aatttgcaaa aagtcaagaa cangttcatc tcctgaagga gcacgtttgc aanaaaccca  1980
nttgggctac tccccangag taacgaccag tttaaccggg ccaagancng gnctgggtcc  2040
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```
cgaactgaaa attgtgcntt tgggttcang gngaacaaga nngcttnccn gaaaacgggg    2100
aaccgttaaa attggnttgg agcaaatnnc aagnaaccaa gcccaatggg caaaattgnt    2160
caacgggtta ccnaatgccg nttcnaaggg aaanncaaca aanacccaan ggccgganan    2220
gcccaaagaa acgggggntt aatgttggtt cccacaatta ttacaaggga cccccaaaaa    2280
agctcttgcg aaggaggact ttgganaaan tttgttgacc agggtaaaan tagggcaggg    2340
acccagcaaa aagactgttt tcccagcaaa gcccttcaga ggccaccttc agaccgttca    2400
gagggcagca gccgggacgg ccagggtagc gacgagaacg aggagtcgag cgttgtggat    2460
tacgtggagg tgacggtcgg ggaggaggat gccatcttca gatagatcag atagctggag    2520
tcaggntgcg gcagaaggtg tgtcggaact ggctgaatca gactccgact gcgtccctgc    2580
agaggctggc caggcctaga cagggaagtc tgttagaact gctgtgctga tcaacgggac    2640
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gactccaagt ggaactactt agctcgcgtg tgcctggagg gtgcgggaag tccagcgact    2760
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atactggaac cgatttgtac aatgtgggaa ttttgttacc ttttttaatca agggcaactt    2940
ccttttccag cactaccatt gtaaggtttt tttcaggagg gagggctaac caccttgctt    3000
ttctcttttc tcttttttctt tttttttattt ttgttttatt aatttgggga aaggggtgtt    3060
agcattagtg ccatgatatc tactggattt taagtaggga gactttatttt ttaaaggtag    3120
gttgaaattt gggagatttc tcggcaggaa gggctgaaat ccaggcccct gtctcaactt    3180
ggagagaggt gacagacggc agatcttcca aatcaaattc ctttccagtt cttcccctgg    3240
ctgccttttt gggggtccct gccttagccc cacacaaggc tttctgaact gccaagaggg    3300
gatctggctt ctcaactgct cggcctcttg ggccaggctg tgcccagcca gccctgggag    3360
aactgggtag caggtggctg acttctttaa gcacctttct aaataccagc agaagaggct    3420
cccgcctctg ttagcatgat cagtactatt gtgacattaa aacaacaaca ataagatctt    3480
cctatctgga gggtacagag gtgaatggct ttggttttca tttctctttc ttcactgctt    3540
ttctcggtgt ggtatttgac aagattttag ntnaaagcct caccatgaat tgatttttttt    3600
tgtttgngng ngtgtttgtt ttgggacaat tttagatacc tgngtgcant tttttcagtta    3660
gtcctaantt ttaaaagaag gggnaaccaag nganatattt ggtgtaagtg ttgcagtatg    3720
aanttctggt tgcaatccct ccccgtccca cantgccccc catttgagta caccgcacaa    3780
gtcaaacgnt aggnagtttg nataaaacca atttttctaa nttgttgntc atttgttgta    3840
antcaataaa gcnaaganta aacattttta tt                                   3872
```

    <210> 31
    <211> 655
    <212> DNA
    <213> Homo Sapiens

    <400> 31

```
gaaatcatgg gagcacaaag aagaaataag tgaagcagag ccaggggggtg gttccttggg      60
agatggaagg ccgccagagg aaagtgccca tgaaatgatg gaggaggaag aggaaatccc     120
aaaacctaag tctgtggttg caccgccagg tgctcctaag aaagagcatg taaatgtagt     180
attcattggg cacgtanatg ctggcaagtc aaccattgga ggacaaataa tgtatttgac     240
tggaatggtt gacaaaagga cgcttgaaaa gtatgaaaga gaagctaaag agaaaaacag     300
agaaacttgg tacttgtctt gggccttaga cacaaatcag gaagaacgag acaagggtaa     360
aacagtagaa gtgggtcgtg cctattttga aaccgaaaag aacatttcac aattctagat     420
atgaatccca gaacactgag ctcaaaaccc aaagcccaga atttgaagct caaagttccn     480
aattccanga aggtgcggag atgcttctga accccgagga aaagatcctt tgaatatctc     540
cgtaggagtt cacccctgg actccttcac tcagggtttt ggggagcacc cacaggggac     600
ctgcccatag ggccaccttt tgagatgccc acagggccc tgctgtctac accgc          655
```

    <210> 32
    <211> 466
    <212> DNA
    <213> Homo Sapiens

<400> 32

```
gaaaggtggc cagaggaagg gacagctgac ctggcacaat ctgggcttga aggggggcaca          60
acaagagcgt ctgtgagctg gtgctgtctg gagggatctt ggctcctctc cggctatctg         120
accttcctga agacctgctc gcacactgca tcccttgcag tcagttccag ctcgtgccga         180
attcggcacg agctcgtgcc gaattcggca cgagggaagc actactccca gcgctgggcc         240
caggaggacc tgctggagga gcagaaggat ggggcccggg cagcggctgt ggctgacaag         300
aagaaaggcc tcatggggcc actgaccgaa ctggacacta aagatgtgga tgccctgctg         360
aagaagtctg aggcccagca tgaacagccg gaagatggat gccccttggg tgccctgacg         420
cagcgcctcc tgcaggccct ggtggaggaa aatattattt tttccc                        466
```

<210> 33
<211> 293
<212> DNA
<213> Homo Sapiens

<400> 33

```
gtcggcgccc tacatgagaa gcatgatgca gtcgctgagc cagaatccag atttggctgc          60
acagatgatg ctgaatagcc cgctgtttac tgcaaatcct cagctgcagg agcagatgcg         120
gccacagctc ccagccttcc tgcagcagat gcagaatcca gacacactat cagccatgtc         180
aaacccaaga gcaatgcagg ctttaatgca gatccagcag gggctacaga cattagccac         240
tgaagcacct ggcctgattc cgagcttcac tccaggtgtg ggggtggggn tct               293
```

<210> 34
<211> 456
<212> DNA
<213> Homo Sapiens

<400> 34

```
caaagcctta agtcagagcc tgctagaatg tgtccaggtt tacagctata ctgcacagca          60
cttcccatgc tagtctctgt aaaacgcaaa aagccatttt caggagcagt aggcaagtca-        120
cattcaattg aaatgcagga tggtgcactg ccattccaag ttccatcttc ctggcagatc         180
agcacagggt tccccagaag ttcatatcct ggattacagg tgtatgaaac catggtacca         240
tacagaaagt ttgatgaatg tgtagcagga gactcctttg tattttccca ggttttagcc         300
actgctccca aatgataagg agggtgagga gtcacatatg gaacttccat catgtcgtct         360
tcttgctcaa aatatccctg gtcatctttg agtttagtac agtctccaaa atctatatga         420
ggagggaggc cacagtctat tggcatacca aatttt                                   456
```

<210> 35
<211> 679
<212> DNA
<213> Homo Sapiens

<400> 35

```
ggcggcgttc gtgtccgagg tcactagttt cccggtagtt cagctgcaca tgaatagaac          60
agcaatgaga gccagtcaga aggactttga aaattcaata aatcaagtga aactcttgaa         120
aaaggatcca ggaaacgaag tgaagctaaa actctacgcg ctatataagc aggccactga         180
aggaccttgt aacatgccca aaccaggtgt atttgacttg atcaacaagg ccaaatggga         240
cgcatggaat gcccttggca gcctgcccaa ggaagctgcc aggcagaact atgtggattt         300
ggtgtccagt ttgagtcctt cattggaatc ctctagtcag gtggagcctg aacagacag          360
gaaatcaact gggtttgaaa ctctggtggt gacctccgaa gatggcatca caaagatcat         420
gttcaaccgg cccaaaaaga aaaatgccat aaacactgag atgtatcatg aaattatgcg         480
tgcacttaaa gctgccagca aggatgactc aatcatcact gttttaacag gaaatggtga         540
ctattacagt agtgggaatg atctgactaa cttcactgat attcccctg gtggagtana          600
ggagaaagct aaaaataatg ccgttttact gaagggaatt tgtgggctgt tttatagaat         660
ttcctaagcc tctgattgc                                                      679
```

●

●

```
<210> 36
<211> 689
<212> DNA
<213> Homo Sapiens

<400> 36
ctaaaccagt ggacatatca ggccatggtc cacgaactac taggcataaa caacaatcgg      60
attgatcttt ccagagtgcc gggaatcagt aaagacttaa gagaagtggt cctatctgct     120
gaaaatgatg aattctatgc taataatatg tacctgaact ttgctgagat tggtagcaat     180
ataaagaatc tcatggaaga ttttcagaag aagaaaccaa aagaacagca aaaactagaa     240
tcaatagcag acatgaaggc gtttgttgag aattatccac agttcaagaa aatgtctggg     300
actgtttcaa agcatgtgac agtggttgga gaactgtctc gattggtcag tgaacggaat     360
ctgctggagg tttcagaggt tgagcaagaa ctggcctgtc aaaatgacca ttctagtgct     420
ctccagaata taaaaaggct tctgcagaac cccaaagtga cagagtttga tgctgcccgc     480
ctggtgatgc tttatgcttt acattatgag cgacacagca gcaatagcct gccaggacta     540
atgatggncc tcaggaataa aggtgtttct gagaagtatc gaaagctcgt gtctgcagtt     600
gttgaatatg gtggtaaaac gagtcagagg aagtgacctc ctcagcccca aagatgctgt     660
tggctatcac caaacaattc ctcaaaggg                                       689


<210> 37
<211> 443
<212> DNA
<213> Homo Sapiens

<400> 37
ccacgcccgg ccccggagca ggcttttacg catgccccgc gcgccccctt gtgtccggaa      60
tttattcctt ccggtgggtt cgcggtctag ctgaccaaga acggaactgg ggactttcgc     120
agtgagagtt acagctctta aagatggcac cgacccaggc cgggcgcggt ggctcaggcc     180
tgcaatccca gcactttggg aggcggaggc aggtgaatca cgaggtcagg aaatcgagac     240
catcctggct aacatggtga acccccgtct ccactaaaaa tacaaaaaat tagccaggca     300
tggtggctgg cacctgtagt cccagctact tgggaggctg agccaggaaa gtggcatgaa     360
cccgcgaggc agagcttgca ataagccgag atcgtgccaa tgcactccag cctgggcaac     420
agaaggagac actgtctcaa aaa                                             443


<210> 38
<211> 442
<212> DNA
<213> Homo Sapiens

<400> 38
ctcgcctcgg agcagccatg atggaaggcc tggacgacgg cccggacttc ctctcagaag      60
aggaccgcgg acttaaagca ataaatgtag atcttcaaag tgatgctgct ctgcaggtgg     120
acatttctga tgctcttagt gagcgggata aagtaaaatt cactgttcac acaaagattc     180
caccagcacc accaagacct gattttgatg cttcaaggga aaaactacag aagcttggtg     240
aaggagaagg gtcaatgacg aaggaagaat tcacaaagat gaaacaggaa ctggaagctg     300
aatatttggc aatattcaag aagacagttg cgatgcatga agtgttcctg tgtcgtgtgg     360
cagcacatcc tattttgaga agagatttaa atttccatgt cttcttggaa tataatcaag     420
atttgagtgt gcgaggaaaa aa                                              442


<210> 39
<211> 692
<212> DNA
<213> Homo Sapiens

<400> 39
```

```
caggggacagg ccctatctta tattttttc catcttcatc atccacttct gcttacagtt        60
tgctgcttac aataacttaa tgatggattg agttatctgg gtggtctcta gccatctggg       120
cagtgtggtt ctgtctaacc aaagggcatt ggcctcaaac cctgcatttg gtttaggggc       180
taacagagct cctcagataa tcttcacaca catgtaactg ctggagatct tattctatta       240
tgaataagaa acgagaagtt tttccaaagt gttagtcagg atctgaaggc tgtcattcag       300
ataacccagc ttttcctttt ggctttagc ccattcagac tttgccagag tcaagccaag        360
gattgctttt ttgctacagt tttctgccaa atggcctagt tcctgagtac ctggaaacca       420
gagagaaaga ggatccagga tgtacttgga tgaggaggcc tggcttatct aggaagtcgt       480
gtctggggtg cttattgctg ctccatacag ctgtacgtca gcccttggc cttctctgta        540
ggttcttggc ancaatgagc agctttcact caagtgacac aagtaattac tgagtcctaa       600
tttgatagcc accaactgta cctgggtang caaagtcaga tttttgagaa nctttttcct       660
gatttgaagt tttaattacc ttaatttcct tt                                     692
```

```
        <210> 40
        <211> 619
        <212> DNA
        <213> Homo Sapiens


        <400> 40
gaggcaccag attctgctga ggggaccacc cttacagtgc tgcctgaagg tgaggagttg        60
cccctgtgtg tgagtgagag caatggcctg gagctcccac cctcagcagc atctgatgag       120
ccacttcagg agccactgga ggctgacagg acctcggaag agctgacaga ggccaagacc       180
ccaacctcca gcccagagaa gccacaggaa ctcgttacag ctgaggttgc agctccatcc       240
acctcatctt cagccacttc ctcgcctgag ggtccttcac ctgcccgacc tcctcggcgt       300
cgcaccagtg ctgatgtgga aattaggggt caagggactg gtcggccagg acaaccacca       360
ggccccaaag tgcttcgaaa gctgccagga cggctggtaa ctgtggtaga ggaaaaggaa       420
ctggtgcggc ggcggcggca gcagcgggga gctgccaanc accctagtgc ctgggggtctc       480
tgagactagt gccagcccgg gaagcccgtc tgtccgcagc atgtcanggc canaatcctc       540
ccctcccatt ggtgggccct gtgaaagctg ctccttcatc cncactgcnc actccanccc       600
agnagcccctt cattgcncg                                                    619
```

```
        <210> 41
        <211> 153
        <212> PRT
        <213> Homo Sapiens


        <400> 41
```

```
Pro Glu Ser Lys Pro Ile Met Thr Ser Ser Glu Ala Phe Glu Pro Pro
1               5                  10                 15
Lys Tyr Leu Met Leu Gly Gln Gln Ala Val Gly Gly Val Pro Ile Gln
            20                  25                 30
Pro Ser Val Arg Thr Gln Met Trp Leu Thr Glu Gln Leu Arg Thr Asn
        35                  40                 45
Pro Leu Glu Gly Arg Asn Thr Glu Asp Ser Tyr Ser Leu Ala Pro Trp
    50                  55                 60
Gln Gln Gln Gln Ile Glu Phe Arg Gln Gly Ser Glu Thr Pro Met Gln
65                  70                 75                 80
Val Leu Thr Gly Ser Ser Arg Gln Ser Tyr Ser Pro Gly Tyr Gln Asp
                85                  90                 95
Phe Ser Lys Trp Glu Ser Met Leu Lys Lys Glu Gly Leu Leu Arg Gln
            100                 105                110
Lys Glu Ile Val Asp Arg Gln Lys Gln Ile Thr His Leu Ile Arg Asp
        115                 120                125
Asn Glu Leu Pro Ala His Ala Met Leu Gly His Tyr Val Asn Cys Glu
    130                 135                140
```

```
Asp Ser Tyr Val Ala Ser Leu His His
145                 150


        <210> 42
        <211> 95
        <212> PRT
        <213> Homo Sapiens


        <400> 42
Ile Leu Leu Glu Phe Tyr Leu Trp Gln Ile Gly Arg Tyr Ile Phe Val
1               5                   10                  15
His Val Asn Asn His Ile Tyr Ile Lys Leu Tyr Asn Cys Thr Phe Leu
            20                  25                  30
Thr Ala Leu Ser Gln Val Ala Leu Ser Phe Pro Ser Ile Asn Gly Leu
        35                  40                  45
Ile Phe Val Ser Phe Ala Phe Phe Arg Val Val Asn Ser Tyr Cys Pro
    50                  55                  60
Leu Gln Phe Val Gln Phe Leu Arg Cys Leu Leu Leu Leu Lys Arg Met
65                  70                  75                  80
Leu Gly Glu Phe Ile Phe His Lys Glu Met Glu His Tyr Leu Lys
                85                  90                  95


        <210> 43
        <211> 114
        <212> PRT
        <213> Homo Sapiens


        <400> 43
Ser Lys Leu Leu Leu Ser Gly Thr Ala Asp Gly Ala Asp Leu Arg Thr
1               5                   10                  15
Val Asp Pro Glu Thr Gln Ala Arg Leu Glu Ala Leu Leu Glu Ala Ala
            20                  25                  30
Gly Ile Gly Lys Leu Ser Thr Ala Asp Gly Lys Ala Phe Ala Asp Pro
        35                  40                  45
Glu Val Leu Arg Arg Leu Thr Ser Ser Val Ser Cys Ala Leu Asp Glu
    50                  55                  60
Ala Ala Ala Leu Thr Arg Met Arg Ala Glu Ser Thr Ala Asn Ala Gly
65                  70                  75                  80
Gln Ser Asp Asn Arg Ser Leu Ala Glu Ala Cys Ser Gly Asp Val Ala
                85                  90                  95
Val Arg Lys Leu Leu Ile Glu Gly Arg Ser Val Phe Glu Leu Pro Glu
            100                 105                 110
Glu Gly


        <210> 44
        <211> 132
        <212> PRT
        <213> Homo Sapiens


        <400> 44
Gly Glu Lys Glu Gln Asp Lys Pro Pro Asn Leu Val Leu Lys Asp Lys
1               5                   10                  15
Val Lys Pro Lys Gln Asp Thr Lys Tyr Asp Leu Ile Leu Asp Glu Gln
            20                  25                  30
```

```
Ala Glu Asp Ser Lys Ser Ser His Ser His Thr Ser Lys His Lys Lys
        35              40              45
Lys Thr His His Cys Ser Glu Glu Lys Glu Asp Glu Asp Tyr Met Pro
    50              55              60
Ile Lys Asn Thr Asn Gln Asp Ile Tyr Arg Glu Met Gly Phe Gly His
65              70              75                      80
Tyr Glu Glu Glu Glu Ser Cys Trp Glu Lys Gln Lys Ser Glu Lys Arg
            85              90                      95
Asp Arg Thr Gln Asn Arg Ser Arg Ser Arg Ser Arg Glu Arg Asp Gly
        100             105             110
His Tyr Ser Asn Ser His Lys Ser Lys Tyr Gln Thr Asp Leu Tyr Glu
        115             120             125
Arg Glu Arg Ser
    130
```

```
        <210> 45
        <211> 214
        <212> PRT
        <213> Homo Sapiens

        <400> 45
Lys Thr Gln Glu Lys Pro Pro Lys Glu Leu Val Asn Glu Trp Ser Leu
1               5               10              15
Lys Ile Arg Lys Glu Met Arg Val Val Asp Arg Gln Ile Arg Asp Ile
        20              25              30
Gln Arg Glu Glu Glu Lys Val Lys Arg Ser Val Lys Asp Ala Ala Lys
        35              40              45
Lys Gly Gln Lys Asp Val Cys Ile Val Leu Ala Lys Glu Met Ile Arg
    50              55              60
Ser Arg Lys Ala Val Ser Lys Leu Ala Ser Lys Ala His Met Asn Ser
65              70              75                      80
Val Leu Met Gly Met Lys Asn Gln Leu Ala Val Leu Arg Val Ala Gly
            85              90                      95
Ser Leu Gln Lys Ser Thr Glu Val Met Lys Ala Met Gln Ser Leu Val
        100             105             110
Lys Ile Pro Glu Ile Gln Ala Thr Met Arg Glu Leu Ser Lys Glu Met
        115             120             125
Met Lys Ala Gly Ile Ile Glu Glu Met Leu Glu Asp Thr Phe Glu Ser
        130             135             140
Met Asp Asp Gln Glu Glu Met Glu Glu Ala Glu Met Glu Ile Asp
145             150             155             160
Arg Ile Leu Phe Glu Ile Thr Ala Gly Ala Leu Gly Lys Ala Pro Ser
            165             170             175
Lys Val Thr Asp Ala Leu Pro Glu Pro Glu Pro Pro Gly Ala Met Ala
        180             185             190
Ala Ser Glu Asp Glu Glu Glu Glu Glu Glu Leu Glu Ala Met Gln Ser
        195             200             205
Arg Leu Ala Thr Arg Ser
    210
```

```
        <210> 46
        <211> 248
        <212> PRT
        <213> Homo Sapiens
```

●   ●

<400> 46
```
Gly Ser Arg Glu Glu Thr Leu Ala Phe Val Pro Leu Leu Arg Leu Leu
1               5                   10                  15
Glu Ala Thr Leu Ser Pro Gly Arg Ala Phe Cys Ser Pro Ile Ser Ser
            20                  25                  30
Lys Ile Gln Pro Ala Gln Val Ala Gly His Glu Leu Cys Ser Gly Ser
        35                  40                  45
Trp Asn Leu Thr Leu Val Ala Ser Gly Pro Val Ser Met Ala Ala Glu
    50                  55                  60
His Leu Leu Pro Gly Pro Pro Pro Ser Leu Ala Asp Phe Leu Glu Ala
65              70                  75                  80
Gly Gly Lys Gly Thr Glu Arg Gly Ser Gly Ser Ser Lys Pro Thr Gly
                85                  90                  95
Ser Ser Gly Gly Pro Arg Met Ala Ser Phe Pro Lys Thr Lys Phe Asn
            100                 105                 110
Glu Tyr Lys Asp Val Leu Pro Cys Met Thr Ser Ser Arg Gly Gly Lys
        115                 120                 125
Ile Lys Ala Thr Asp Phe Met Val Ala Met Arg Cys Leu Gly Ala Ser
    130                 135                 140
Pro Thr Pro Gly Glu Val Gln Arg His Leu Gln Thr His Gly Ile Asp
145                 150                 155                 160
Gly Asn Gly Glu Leu Asp Phe Ser Thr Phe Leu Thr Ile Met His Met
                165                 170                 175
Gln Ile Lys Gln Glu Asp Pro Lys Lys Glu Ile Leu Leu Ala Met Leu
            180                 185                 190
Met Val Asp Lys Glu Lys Lys Gly Tyr Val Met Ala Ser Asp Leu Arg
        195                 200                 205
Ser Lys Leu Thr Ser Gly Glu Lys Leu Thr His Lys Glu Val Asp Asp
    210                 215                 220
Leu Phe Arg Glu Ala Asp Ile Glu Pro Asn Gly Lys Val Lys Tyr Asp
225                 230                 235                 240
Glu Phe Ile His Lys Ile Thr Leu
                245
```

<210> 47
<211> 177
<212> PRT
<213> Homo Sapiens

<400> 47
```
Leu Cys Cys Met His Tyr Cys Cys Lys Ser Cys Trp Asn Glu Tyr Leu
1               5                   10                  15
Thr Thr Arg Ile Glu Gln Asn Leu Val Leu Asn Cys Thr Cys Pro Ile
            20                  25                  30
Ala Asp Cys Pro Ala Gln Pro Thr Gly Ala Phe Ile Arg Ala Ile Val
        35                  40                  45
Ser Ser Pro Glu Val Ile Ser Lys Tyr Lys Ala Leu Leu Arg Gly Tyr
    50                  55                  60
Val Glu Ser Cys Ser Asn Leu Thr Trp Cys Thr Asn Pro Gln Gly Cys
65              70                  75                  80
Asp Arg Ile Leu Cys Arg Gln Gly Leu Gly Cys Gly Thr Thr Cys Ser
                85                  90                  95
Lys Cys Gly Trp Ala Ser Cys Phe Asn Cys Ser Phe Pro Glu Ala His
            100                 105                 110
Tyr Pro Ala Ser Cys Gly His Met Ser Gln Trp Val Asp Asp Gly Gly
```

```
                115                     120                     125
Tyr Tyr Asp Gly Met Ser Val Glu Ala Lys His Leu Ala Lys Leu Ile
    130                     135                     140
Ser Lys Arg Cys Pro Ser Cys Gln Ala Pro Ile Glu Asn Glu Gly Cys
145                     150                     155                     160
Leu His Met Thr Cys Ala Lys Cys Asn His Gly Phe Cys Trp Arg Cys
                165                     170                     175
Leu


        <210> 48
        <211> 102
        <212> PRT
        <213> Homo Sapiens


        <400> 48
Glu Lys Gly Leu His Ile Asp Gln Leu Val Cys Leu Val Leu Glu Ala
1               5                   10                  15
Gln Lys Gly Pro Asn Pro Pro Gly Thr Leu Gly His Thr Val Ala Gly
                20                  25                  30
Gly Val Ala Cys Thr Thr Thr Val Leu Ser Cys Leu His Leu Leu Ser
            35                  40                  45
Gln Gly Tyr Lys Arg Asp Arg Pro Gln Ile Leu Met Tyr Ala Ala Pro
        50                  55                  60
Pro Met Gly Pro Cys Arg Gly Ala His Phe Cys Gly Ser Ser Gln Thr
65                  70                  75                  80
Ser Pro Pro Lys Pro Val Ala Thr Leu Ser Leu Leu Pro Cys Pro Leu
                85                  90                  95
Pro Pro Leu Lys Asn Gly
                100


        <210> 49
        <211> 179
        <212> PRT
        <213> Homo Sapiens


        <400> 49
His Lys Pro Cys Asn Pro Arg Glu Lys Glu Arg Ile Gln Asn Ala Gly
1               5                   10                  15
Gly Ser Val Met Ile Gln Arg Val Asn Gly Ser Leu Ala Val Ser Arg
                20                  25                  30
Ala Leu Gly Asp Tyr Asp Tyr Lys Cys Val Asp Gly Lys Gly Pro Thr
            35                  40                  45
Glu Gln Leu Val Ser Pro Glu Pro Glu Val Tyr Glu Ile Leu Arg Ala
        50                  55                  60
Glu Glu Asp Glu Phe Ile Ile Leu Ala Cys Asp Gly Ile Trp Asp Val
65                  70                  75                  80
Met Ser Asn Glu Glu Leu Cys Glu Tyr Val Lys Ser Arg Leu Glu Val
                85                  90                  95
Ser Asp Asp Leu Glu Asn Val Cys Asn Trp Val Val Asp Thr Cys Leu
                100                 105                 110
His Lys Gly Ser Arg Asp Asn Met Ser Ile Val Leu Val Cys Phe Ser
            115                 120                 125
Asn Ala Pro Lys Val Ser Asp Glu Ala Val Lys Lys Asp Ser Glu Leu
        130                 135                 140
```

Asp Lys His Leu Glu Ser Ile Met Glu Asn Leu Ala Lys Glu Cys Leu
145   150   155   160
Ile Leu Pro Met Ser Cys Ala Ser Cys Leu Gln Lys Ile Ser Gln Ile
                165   170   175
Cys Leu Leu

        <210> 50
        <211> 163
        <212> PRT
        <213> Homo Sapiens

        <400> 50
Asp Leu Pro Thr Leu Glu Asp His Gln Lys Gln Ser Gln Gln Leu Lys
1   5   10   15
Asp Ser Glu Leu Lys Ser Thr Glu Leu Gln Glu Lys Val Thr Glu Leu
                20   25   30
Glu Ser Leu Leu Glu Glu Thr Gln Ala Ile Cys Arg Glu Lys Glu Ile
                35   40   45
Gln Leu Glu Ser Leu Arg Gln Arg Glu Ala Glu Phe Ser Ser Ala Gly
        50   55   60
His Ser Leu Gln Asp Lys Gln Ser Val Glu Glu Thr Ser Gly Glu Gly
65   70   75   80
Pro Glu Val Glu Met Glu Ser Trp Gln Lys Arg Tyr Asp Ser Leu Gln
                85   90   95
Lys Ile Val Glu Lys Gln Gln Gln Lys Met Asp Gln Leu Arg Ser Gln
                100   105   110
Val Gln Ser Leu Glu Gln Glu Val Ala Glu Glu Gly Thr Ser Gln Ala
                115   120   125
Leu Arg Glu Glu Ala Gln Arg Arg Asp Ser Ala Leu Gln Gln Leu Arg
        130   135   140
Thr Ala Val Lys Leu Ser Val Asn Gln Asp Leu Ile Glu Lys Asn Leu
145   150   155   160
Thr Leu Gln

        <210> 51
        <211> 164
        <212> PRT
        <213> Homo Sapiens
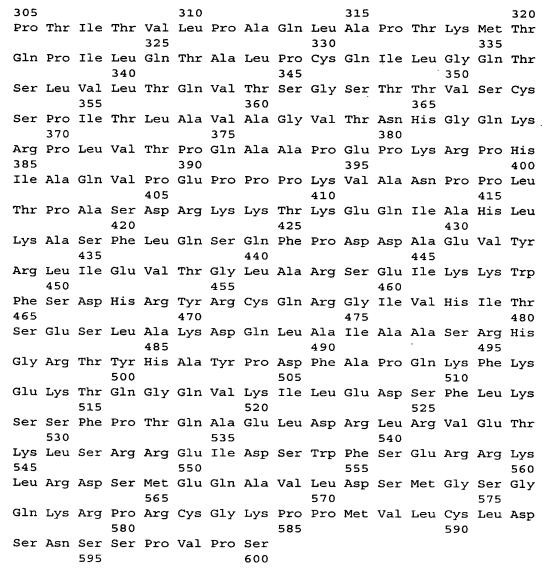
        <400> 51
Phe Gly Asp Ser Val Asp Cys Ser Asp Cys Trp Leu Pro Val Val Lys
1   5   10   15
Phe Ile Glu Glu Gln Phe Glu Gln Tyr Leu Arg Asp Glu Ser Gly Leu
                20   25   30
Asn Arg Lys Asn Ile Gln Asp Ser Arg Val His Cys Cys Leu Tyr Phe
        35   40   45
Ile Ser Pro Phe Gly Arg Gly Leu Arg Pro Leu Ala Phe Leu Arg Ala
        50   55   60
Val His Lys Val Asn Ile Ile Pro Val Ile Gly Lys Ala Asp Ala Leu
65   70   75   80
Met Pro Gln Glu Thr Gln Ala Leu Lys Gln Lys Ile Arg Asp Gln Leu
                85   90   95
Lys Glu Glu Glu Ile His Ile Tyr Gln Phe Pro Glu Cys Asp Ser Asp

```
                    100                    105                    110
Glu Asp Glu Asp Phe Lys Arg Gln Asp Ala Met Lys Glu Ser Ile Pro
            115                    120                    125
Phe Ala Val Val Gly Ser Cys Gln Val Val Arg Asp Gly Gly Asn Arg
        130                    135                    140
Pro Val Arg Gly Arg Arg Tyr Ser Trp Gly Asn Val Glu Val Asn His
145                    150                    155                    160
Ile Ala Ile Ser


        <210> 52
        <211> 600
        <212> PRT
        <213> Homo Sapiens


        <400> 52
Met Cys Pro Arg Gln Val Asp Arg Ala Lys Glu Lys Gly Ile Gly Thr
1                   5                   10                   15
Pro Gln Pro Asp Val Ala Lys Asp Ser Trp Ala Glu Leu Glu Asn Ser
            20                    25                    30
Ser Lys Glu Asn Glu Val Ile Glu Val Lys Ser Met Gly Glu Ser Gln
        35                    40                    45
Ser Lys Lys Leu Gln Gly Gly Tyr Glu Cys Lys Tyr Cys Pro Tyr Ser
        50                    55                    60
Thr Gln Asn Leu Asn Glu Phe Thr Glu His Val Asp Met Gln His Pro
65                    70                    75                    80
Asn Val Ile Leu Asn Pro Leu Tyr Val Cys Ala Glu Cys Asn Phe Thr
                85                    90                    95
Thr Lys Lys Tyr Asp Ser Leu Ser Asp His Asn Ser Lys Phe His Pro
            100                    105                    110
Gly Glu Ala Asn Phe Lys Leu Lys Leu Ile Lys Arg Asn Asn Gln Thr
            115                    120                    125
Val Leu Glu Gln Ser Ile Glu Thr Thr Asn His Val Val Ser Ile Thr
        130                    135                    140
Thr Ser Gly Pro Gly Thr Gly Asp Ser Asp Ser Gly Ile Ser Val Ser
145                    150                    155                    160
Lys Thr Pro Ile Met Lys Pro Gly Lys Pro Lys Ala Asp Ala Lys Lys
                165                    170                    175
Val Pro Lys Lys Pro Glu Glu Ile Thr Pro Glu Asn His Val Glu Gly
            180                    185                    190
Thr Ala Arg Leu Val Thr Asp Thr Ala Glu Ile Leu Ser Arg Leu Gly
            195                    200                    205
Gly Val Glu Leu Leu Gln Asp Thr Leu Gly His Val Met Pro Ser Val
        210                    215                    220
Gln Leu Pro Pro Asn Ile Asn Leu Val Pro Lys Val Pro Val Pro Leu
225                    230                    235                    240
Asn Thr Thr Lys Tyr Asn Ser Ala Leu Asp Thr Asn Ala Thr Met Ile
                245                    250                    255
Asn Ser Phe Asn Lys Phe Pro Tyr Pro Thr Gln Ala Glu Leu Ser Trp
                260                    265                    270
Leu Thr Ala Ala Ser Lys His Pro Glu Glu His Ile Arg Ile Trp Phe
            275                    280                    285
Ala Thr Gln Arg Leu Lys His Gly Ile Ser Trp Ser Pro Glu Glu Val
        290                    295                    300
Glu Glu Ala Arg Lys Lys Met Phe Asn Gly Thr Ile Gln Ser Val Pro
```

```
305                   310                   315                   320
Pro Thr Ile Thr Val Leu Pro Ala Gln Leu Ala Pro Thr Lys Met Thr
                      325                   330                   335
Gln Pro Ile Leu Gln Thr Ala Leu Pro Cys Gln Ile Leu Gly Gln Thr
                      340                   345                   350
Ser Leu Val Leu Thr Gln Val Thr Ser Gly Ser Thr Thr Val Ser Cys
                      355                   360                   365
Ser Pro Ile Thr Leu Ala Val Ala Gly Val Thr Asn His Gly Gln Lys
            370                   375                   380
Arg Pro Leu Val Thr Pro Gln Ala Ala Pro Glu Pro Lys Arg Pro His
385                   390                   395                   400
Ile Ala Gln Val Pro Glu Pro Pro Lys Val Ala Asn Pro Pro Leu
                      405                   410                   415
Thr Pro Ala Ser Asp Arg Lys Lys Thr Lys Glu Gln Ile Ala His Leu
                      420                   425                   430
Lys Ala Ser Phe Leu Gln Ser Gln Phe Pro Asp Asp Ala Glu Val Tyr
                      435                   440                   445
Arg Leu Ile Glu Val Thr Gly Leu Ala Arg Ser Glu Ile Lys Lys Trp
            450                   455                   460
Phe Ser Asp His Arg Tyr Arg Cys Gln Arg Gly Ile Val His Ile Thr
465                   470                   475                   480
Ser Glu Ser Leu Ala Lys Asp Gln Leu Ala Ile Ala Ala Ser Arg His
                      485                   490                   495
Gly Arg Thr Tyr His Ala Tyr Pro Asp Phe Ala Pro Gln Lys Phe Lys
                      500                   505                   510
Glu Lys Thr Gln Gly Gln Val Lys Ile Leu Glu Asp Ser Phe Leu Lys
                      515                   520                   525
Ser Ser Phe Pro Thr Gln Ala Glu Leu Asp Arg Leu Arg Val Glu Thr
            530                   535                   540
Lys Leu Ser Arg Arg Glu Ile Asp Ser Trp Phe Ser Glu Arg Arg Lys
545                   550                   555                   560
Leu Arg Asp Ser Met Glu Gln Ala Val Leu Asp Ser Met Gly Ser Gly
                      565                   570                   575
Gln Lys Arg Pro Arg Cys Gly Lys Pro Pro Met Val Leu Cys Leu Asp
            580                   585                   590
Ser Asn Ser Ser Pro Val Pro Ser
            595                   600
```

```
        <210> 53
        <211> 163
        <212> PRT
        <213> Homo Sapiens


        <400> 53
Arg Lys Ser Trp Glu His Lys Glu Glu Ile Ser Glu Ala Glu Pro Gly
1                   5                   10                  15
Gly Gly Ser Leu Gly Asp Gly Arg Pro Pro Glu Glu Ser Ala His Glu
            20                  25                  30
Met Met Glu Glu Glu Glu Glu Ile Pro Lys Pro Lys Ser Val Val Ala
            35                  40                  45
Pro Pro Gly Ala Pro Lys Lys Glu His Val Asn His Val Ala Gly Lys
        50                  55                  60
Ser Thr Ile Gly Gly Gln Ile Met Tyr Leu Thr Gly Met Val Asp Lys
65                  70                  75                  80
Arg Thr Leu Glu Lys Tyr Glu Arg Glu Ala Lys Glu Lys Asn Arg Glu
```

```
                           85                    90                    95
Thr Trp Tyr Leu Ser Trp Ala Leu Asp Thr Asn Gln Glu Glu Arg Asp
                          100                   105                   110
Lys Gly Lys Thr Val Glu Val Gly Arg Ala Tyr Phe Glu Thr Glu Lys
                  115                   120                   125
Lys His Phe Thr Ile Leu Asp Met Asn Pro Arg Thr Leu Ser Ser Lys
          130                   135                   140
Pro Lys Ala Gln Asn Leu Lys Leu Lys Val Pro Asn Ser Lys Val Arg
145                   150                   155                   160
Arg Cys Phe
```

```
        <210> 54
        <211> 155
        <212> PRT
        <213> Homo Sapiens


        <400> 54
Glu Arg Trp Pro Glu Glu Gly Thr Ala Asp Leu Ala Gln Ser Gly Leu
1                   5                    10                   15
Glu Gly Gly Thr Thr Arg Ala Ser Val Ser Trp Cys Cys Leu Glu Gly
                  20                    25                   30
Ser Trp Leu Leu Ser Gly Tyr Leu Thr Phe Leu Lys Thr Cys Ser His
          35                    40                   45
Thr Ala Ser Leu Ala Val Ser Ser Ser Cys Arg Ile Arg His Glu
          50                    55                   60
Leu Val Pro Asn Ser Ala Arg Gly Lys His Tyr Ser Gln Arg Trp Ala
65                   70                    75                   80
Gln Glu Asp Leu Leu Glu Glu Gln Lys Asp Gly Ala Arg Ala Ala Ala
                  85                    90                   95
Val Ala Asp Lys Lys Lys Gly Leu Met Gly Pro Leu Thr Glu Leu Asp
                  100                   105                   110
Thr Lys Asp Val Asp Ala Leu Leu Lys Lys Ser Glu Ala Gln His Glu
                  115                   120                   125
Gln Pro Glu Asp Gly Cys Pro Phe Gly Ala Leu Thr Gln Arg Leu Leu
          130                   135                   140
Gln Ala Leu Val Glu Glu Asn Ile Ile Phe Ser
145                   150                   155
```

```
        <210> 55
        <211> 112
        <212> PRT
        <213> Homo Sapiens


        <400> 55
Ser Glu Arg Ala Leu Ala Pro Arg Thr Tyr Arg Met Glu Thr Ala Arg
1                   5                    10                   15
Ser Ala Pro Tyr Met Arg Ser Met Met Gln Ser Leu Ser Gln Asn Pro
                  20                    25                   30
Asp Leu Ala Ala Gln Met Met Leu Asn Ser Pro Leu Phe Thr Ala Asn
          35                    40                   45
Pro Gln Leu Gln Glu Gln Met Arg Pro Gln Leu Pro Ala Phe Leu Gln
          50                    55                   60
Gln Met Gln Asn Pro Asp Thr Leu Ser Ala Met Ser Asn Pro Arg Ala
65                   70                    75                   80
```

●   ●

```
Met Gln Ala Leu Met Gln Ile Gln Gln Gly Leu Gln Thr Leu Ala Thr
                85                  90                  95
Glu Ala Pro Gly Leu Ile Pro Ser Phe Thr Pro Gly Val Gly Val Gly
            100                 105                 110


        <210> 56
        <211> 151
        <212> PRT
        <213> Homo Sapiens


        <400> 56
Lys Phe Gly Met Pro Ile Asp Cys Gly Leu Pro Pro His Ile Asp Phe
 1               5                  10                  15
Gly Asp Cys Thr Lys Leu Lys Asp Asp Gln Gly Tyr Phe Glu Gln Glu
            20                  25                  30
Asp Asp Met Met Glu Val Pro Tyr Val Thr Pro His Pro Pro Tyr His
            35                  40                  45
Leu Gly Ala Val Ala Lys Thr Trp Glu Asn Thr Lys Glu Ser Pro Ala
    50                  55                  60
Thr His Ser Ser Asn Phe Leu Tyr Gly Thr Met Val Ser Tyr Thr Cys
65                  70                  75                  80
Asn Pro Gly Tyr Glu Leu Leu Gly Asn Pro Val Leu Ile Cys Gln Glu
                85                  90                  95
Asp Gly Thr Trp Asn Gly Ser Ala Pro Ser Cys Ile Ser Ile Glu Cys
            100                 105                 110
Asp Leu Pro Thr Ala Pro Glu Asn Gly Phe Leu Arg Phe Thr Glu Thr
            115                 120                 125
Ser Met Gly Ser Ala Val Gln Tyr Ser Cys Lys Pro Gly His Ile Leu
            130                 135                 140
Ala Gly Ser Asp Leu Arg Leu
145                 150


        <210> 57
        <211> 220
        <212> PRT
        <213> Homo Sapiens


        <400> 57
Ala Ala Phe Val Ser Glu Val Thr Ser Phe Pro Val Val Gln Leu His
 1               5                  10                  15
Met Asn Arg Thr Ala Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser
            20                  25                  30
Ile Asn Gln Val Lys Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys
            35                  40                  45
Leu Lys Leu Tyr Ala Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn
    50                  55                  60
Met Pro Lys Pro Gly Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp
65                  70                  75                  80
Ala Trp Asn Ala Leu Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn
                85                  90                  95
Tyr Val Asp Leu Val Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser
            100                 105                 110
Gln Val Glu Pro Gly Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu
            115                 120                 125
Val Val Thr Ser Glu Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro
```

```
      130                    135                    140
Lys Lys Lys Asn Ala Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg
145                    150                    155                    160
Ala Leu Lys Ala Ala Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr
                  165                    170                    175
Gly Asn Gly Asp Tyr Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr
                  180                    185                    190
Asp Ile Pro Pro Gly Gly Val Glu Lys Ala Lys Asn Asn Ala Val Leu
         195                    200                    205
Leu Lys Gly Ile Cys Gly Leu Phe Tyr Arg Ile Ser
    210                    215                    220
```

```
        <210> 58
        <211> 101
        <212> PRT
        <213> Homo Sapiens


        <400> 58
Trp Pro Asp Leu Val His Thr Trp Ser Ser Glu Glu Ala Met Gly Ser
1                    5                    10                    15
Cys Cys Ser Cys Pro Asp Lys Asp Thr Val Pro Asp Asn His Arg Asn
                  20                    25                    30
Lys Phe Lys Val Ile Asn Val Asp Asp Asp Gly Asn Glu Leu Gly Ser
         35                    40                    45
Gly Ile Met Glu Leu Thr Asp Thr Glu Leu Ile Leu Tyr Thr Arg Lys
         50                    55                    60
Arg Asp Ser Val Lys Trp His Tyr Leu Cys Leu Arg Arg Tyr Gly Tyr
65                    70                    75                    80
Asp Ser Asn Leu Phe Ser Phe Glu Ser Gly Pro Arg Cys Gln Thr Gly
                  85                    90                    95
Thr Arg Asn Leu Cys
              100


        <210> 59
        <211> 43
        <212> PRT
        <213> Homo Sapiens


        <400> 59
Ala His Gly Pro Gly Val Glu Pro Thr Ser Arg His Gln Lys Asn Asn
1                    5                    10                    15
Leu Ser Ser Ser His Thr Val Arg Leu Glu Thr Arg Gly Gln Thr Glu
                  20                    25                    30
Asn Gln Glu Cys Leu Leu Cys Pro His Glu Glu
         35                    40


        <210> 60
        <211> 210
        <212> PRT
        <213> Homo Sapiens


        <400> 60
Leu Asn Gln Trp Thr Tyr Gln Ala Met Val His Glu Leu Leu Gly Ile
1                    5                    10                    15
Asn Asn Asn Arg Ile Asp Leu Ser Arg Val Pro Gly Ile Ser Lys Asp
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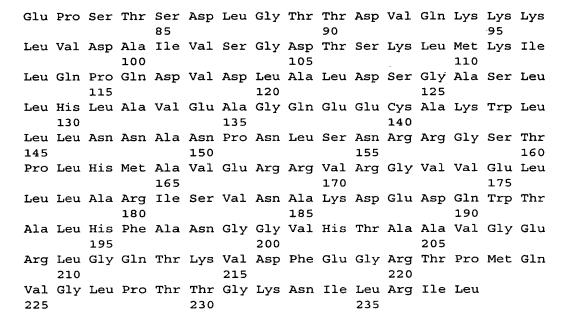
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                20                  25                  30
Leu Arg Glu Val Val Leu Ser Ala Glu Asn Asp Glu Phe Tyr Ala Asn
            35                  40                  45
Asn Met Tyr Leu Asn Phe Ala Glu Ile Gly Ser Asn Ile Lys Asn Leu
        50                  55                  60
Met Glu Asp Phe Gln Lys Lys Lys Pro Lys Glu Gln Gln Lys Leu Glu
65                  70                  75                  80
Ser Ile Ala Asp Met Lys Ala Phe Val Glu Asn Tyr Pro Gln Phe Lys
                85                  90                  95
Lys Met Ser Gly Thr Val Ser Lys His Val Thr Val Val Gly Glu Leu
            100                 105                 110
Ser Arg Leu Val Ser Glu Arg Asn Leu Leu Glu Val Ser Glu Val Glu
        115                 120                 125
Gln Glu Leu Ala Cys Gln Asn Asp His Ser Ser Ala Leu Gln Asn Ile
    130                 135                 140
Lys Arg Leu Leu Gln Asn Pro Lys Val Thr Glu Phe Asp Ala Ala Arg
145                 150                 155                 160
Leu Val Met Leu Tyr Ala Leu His Tyr Glu Arg His Ser Ser Asn Ser
            165                 170                 175
Leu Pro Gly Leu Met Met Leu Arg Asn Lys Gly Val Ser Glu Lys Tyr
            180                 185                 190
Arg Lys Leu Val Ser Ala Val Val Glu Tyr Gly Gly Lys Thr Ser Gln
        195                 200                 205
Arg Lys
210


    <210> 61
    <211> 40
    <212> PRT
    <213> Homo Sapiens


    <400> 61
Thr Pro Gly Pro Gly Ala Gly Phe Tyr Ala Cys Pro Ala Arg Pro Leu
1               5                   10                  15
Val Ser Gly Ile Tyr Ser Phe Arg Trp Val Arg Gly Leu Ala Asp Gln
            20                  25                  30
Glu Arg Asn Trp Gly Leu Ser Gln
        35                  40


    <210> 62
    <211> 238
    <212> PRT
    <213> Homo Sapiens


    <400> 62
His Glu Ala Arg Leu Lys Arg Ala Ser Ala Pro Thr Phe Asp Asn Asp
1               5                   10                  15
Tyr Ser Leu Ser Glu Leu Leu Ser Gln Leu Asp Ser Gly Val Ser Gln
            20                  25                  30
Ala Val Glu Gly Pro Glu Glu Leu Ser Arg Ser Ser Ser Glu Ser Lys
        35                  40                  45
Leu Pro Ser Ser Gly Ser Gly Lys Arg Leu Ser Gly Val Ser Ser Val
    50                  55                  60
Asp Ser Ala Phe Ser Ser Arg Gly Ser Leu Ser Leu Ser Phe Glu Arg
65                  70                  75                  80
```

```
Glu Pro Ser Thr Ser Asp Leu Gly Thr Thr Asp Val Gln Lys Lys Lys
            85                  90                  95
Leu Val Asp Ala Ile Val Ser Gly Asp Thr Ser Lys Leu Met Lys Ile
            100                 105                 110
Leu Gln Pro Gln Asp Val Asp Leu Ala Leu Asp Ser Gly Ala Ser Leu
            115                 120                 125
Leu His Leu Ala Val Glu Ala Gly Gln Glu Glu Cys Ala Lys Trp Leu
            130                 135                 140
Leu Leu Asn Asn Ala Asn Pro Asn Leu Ser Asn Arg Arg Gly Ser Thr
145                 150                 155                 160
Pro Leu His Met Ala Val Glu Arg Arg Val Arg Gly Val Val Glu Leu
            165                 170                 175
Leu Leu Ala Arg Ile Ser Val Asn Ala Lys Asp Glu Asp Gln Trp Thr
            180                 185                 190
Ala Leu His Phe Ala Asn Gly Gly Val His Thr Ala Ala Val Gly Glu
            195                 200                 205
Arg Leu Gly Gln Thr Lys Val Asp Phe Glu Gly Arg Thr Pro Met Gln
210                 215                 220
Val Gly Leu Pro Thr Thr Gly Lys Asn Ile Leu Arg Ile Leu
225                 230                 235
```

```
<210> 63
<211> 146
<212> PRT
<213> Homo Sapiens

<400> 63
Arg Leu Gly Ala Ala Met Met Glu Gly Leu Asp Asp Gly Pro Asp Phe
1               5               10                  15
Leu Ser Glu Glu Asp Arg Gly Leu Lys Ala Ile Asn Val Asp Leu Gln
            20                  25                  30
Ser Asp Ala Ala Leu Gln Val Asp Ile Ser Asp Ala Leu Ser Glu Arg
            35                  40                  45
Asp Lys Val Lys Phe Thr Val His Thr Lys Ile Pro Pro Ala Pro Pro
50                  55                  60
Arg Pro Asp Phe Asp Ala Ser Arg Glu Lys Leu Gln Lys Leu Gly Glu
65                  70                  75                  80
Gly Glu Gly Ser Met Thr Lys Glu Glu Phe Thr Lys Met Lys Gln Glu
            85                  90                  95
Leu Glu Ala Glu Tyr Leu Ala Ile Phe Lys Lys Thr Val Ala Met His
            100                 105                 110
Glu Val Phe Leu Cys Arg Val Ala Ala His Pro Ile Leu Arg Arg Asp
            115                 120                 125
Leu Asn Phe His Val Phe Leu Glu Tyr Asn Gln Asp Leu Ser Val Arg
130                 135                 140
Gly Lys
145
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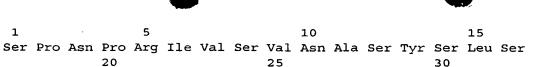
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<210> 64
<211> 63
<212> PRT
<213> Homo Sapiens

<400> 64
Glu Arg Gly His Ser Ile Lys Asp Phe Val Ser Phe Ala Arg His Phe
```

```
        1               5                       10                      15
Ser Pro Asn Pro Arg Ile Val Ser Val Asn Ala Ser Tyr Ser Leu Ser
                20                      25                      30
Asn Glu Ser Ser Leu Glu Gln Val Tyr Thr Leu Lys Met Ser Phe Ile
            35                      40                      45
Ala Ser Asn Thr Tyr His Asn Gln Leu Tyr Lys Glu Gly Phe Leu
        50                      55                      60
```

```
        <210> 65
        <211> 199
        <212> PRT
        <213> Homo Sapiens


        <400> 65
Glu Ala Pro Asp Ser Ala Glu Gly Thr Thr Leu Thr Val Leu Pro Glu
  1                 5                       10                      15
Gly Glu Glu Leu Pro Leu Cys Val Ser Glu Ser Asn Gly Leu Glu Leu
                20                      25                      30
Pro Pro Ser Ala Ala Ser Asp Glu Pro Leu Gln Glu Pro Leu Glu Ala
            35                      40                      45
Asp Arg Thr Ser Glu Glu Leu Thr Glu Ala Lys Thr Pro Thr Ser Ser
        50                      55                      60
Pro Glu Lys Pro Gln Glu Leu Val Thr Ala Glu Val Ala Ala Pro Ser
65                      70                      75                      80
Thr Ser Ser Ser Ala Thr Ser Ser Pro Glu Gly Pro Ser Pro Ala Arg
                        85                      90                      95
Pro Pro Arg Arg Arg Thr Ser Ala Asp Val Glu Ile Arg Gly Gln Gly
                100                     105                     110
Thr Gly Arg Pro Gly Gln Pro Pro Gly Pro Lys Val Leu Arg Lys Leu
                115                     120                     125
Pro Gly Arg Leu Val Thr Val Val Glu Glu Lys Glu Leu Val Arg Arg
        130                     135                     140
Arg Arg Gln Gln Arg Gly Ala Ala Ser Thr Leu Val Pro Gly Val Ser
145                     150                     155                     160
Glu Thr Ser Ala Ser Pro Gly Ser Pro Ser Val Arg Ser Met Ser Gly
                165                     170                     175
Pro Glu Ser Ser Pro Pro Ile Gly Gly Pro Cys Glu Ala Ala Pro Ser
                180                     185                     190
Ser Ser Leu Pro Thr Pro Pro
        195
```

```
        <210> 66
        <211> 1599
        <212> DNA
        <213> Homo Sapiens


        <400> 66
ttctttgaaa cattattatt cagaacgaag gagaatgata cagatacact ggctgaggtg    60
ttttgaggtg cattgaaatg ttccatgctg ttacttaggt taacatgttc ttgaggtacc   120
atgccatgga ttaaaaggaa atttggtaag tggcttccac ctaaacgact tactagggaa   180
gctatgcgaa attatttaaa agggtaaggg gatcaaatag tacttatcct tcatgcaaaa   240
gttgtacaga agtcatatgg caatcaaaaa attttttttt gccctccccc ttgtgtatat   300
cttatgggca gtggatggaa gaaaaaaaaa gaacaaatga aatgcgatgg ttgttctgaa   360
cacagctctc atccatgtgc atttattggg ataggaaata gtgaccaaga aatgcagcag   420
ctaaacttgg aaggaaagaa ctattgcaca gccaaaacat tgtacatatc tgattcagac   480
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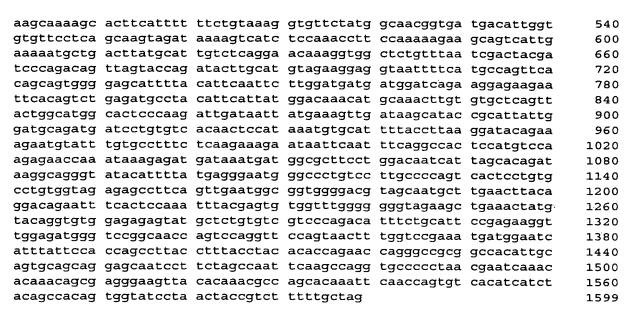
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aagcaaaagc acttcatttt ttctgtaaag gtgttctatg gcaacggtga tgacattggt    540
gtgttcctca gcaagtagat aaaagtcatc tccaaacctt ccaaaaagaa gcagtcattg    600
aaaaatgctg acttatgcat tgtctcagga acaaaggtgg ctctgtttaa tcgactacga    660
tcccagacag ttagtaccag atacttgcat gtagaaggag gtaattttca tgccagttca    720
cagcagtggg gagcatttta cattcaattc ttggatgatg atggatcaga aggagaagaa    780
ttcacagtct gagatgccta cattcattat ggacaaacat gcaaacttgt gtgctcagtt    840
actggcatgg cactcccaag attgataatt atgaaagttg ataagcatac cgcattattg    900
gatgcagatg atcctgtgtc acaactccat aaatgtgcat tttaccttaa ggatacagaa    960
agaatgtatt tgtgcctttc tcaagaaaga ataattcaat ttcaggccac tccatgtcca   1020
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agtgcagcag gagcaatcct tctagccaat tcaagccagg tgcccctaa  cgaatcaaac   1500
acaaacagcg agggaagtta cacaaacgcc agcacaaatt caaccagtgt cacatcatct   1560
acagccacag tggtatccta actaccgtct ttttgctag                          1599
```

```
        <210> 67
        <211> 729
        <212> PRT
        <213> Homo Sapiens

        <400> 67
Met Gly Lys Lys Tyr Lys Asn Ile Val Leu Leu Lys Gly Leu Glu Val
1               5                   10                  15
Ile Asn Asp Tyr His Phe Arg Met Val Lys Ser Leu Leu Ser Asn Asp
            20                  25                  30
Leu Lys Leu Asn Leu Lys Met Arg Glu Glu Tyr Asp Lys Ile Gln Ile
        35                  40                  45
Ala Asp Leu Met Glu Glu Lys Phe Arg Gly Asp Ala Gly Leu Gly Lys
    50                  55                  60
Leu Ile Lys Ile Phe Glu Asp Ile Pro Thr Leu Glu Asp Leu Ala Glu
65                  70                  75                  80
Thr Leu Lys Lys Glu Lys Leu Lys Val Lys Gly Pro Ala Leu Ser Arg
                85                  90                  95
Lys Arg Lys Lys Glu Val His Ala Thr Ser Pro Ala Pro Ser Thr Ser
            100                 105                 110
Ser Thr Val Lys Thr Glu Gly Ala Glu Ala Thr Pro Gly Ala Gln Lys
            115                 120                 125
Arg Lys Lys Ser Thr Lys Glu Lys Ala Gly Pro Lys Gly Ser Lys Val
    130                 135                 140
Ser Glu Glu Gln Thr Gln Pro Pro Ser Pro Ala Gly Ala Gly Met Ser
145                 150                 155                 160
Thr Ala Met Gly Arg Ser Pro Ser Pro Lys Thr Ser Leu Ser Ala Pro
                165                 170                 175
Pro Asn Ser Ser Ser Thr Glu Asn Pro Lys Thr Val Ala Lys Cys Gln
            180                 185                 190
Val Thr Pro Arg Arg Asn Val Leu Gln Lys Arg Pro Val Ile Val Lys
        195                 200                 205
Val Leu Ser Thr Thr Lys Pro Phe Glu Tyr Glu Thr Pro Glu Met Glu
    210                 215                 220
Lys Lys Ile Met Phe His Ala Thr Val Ala Thr Gln Thr Gln Phe Phe
```

```
        225                    230                    235                    240
His Val Lys Val Leu Asn Thr Ser Leu Lys Glu Lys Phe Asn Gly Lys
                    245                    250                    255
Lys Ile Ile Ile Ile Ser Asp Tyr Leu Glu Tyr Asp Ser Leu Leu Glu
                    260                    265                    270
Val Asn Glu Glu Ser Thr Val Ser Glu Ala Gly Pro Asn Gln Thr Phe
                    275                    280                    285
Glu Val Pro Asn Lys Ile Ile Asn Arg Ala Lys Glu Thr Leu Lys Ile
        290                    295                    300
Asp Ile Leu His Lys Gln Ala Ser Gly Asn Ile Val Tyr Gly Val Phe
305                    310                    315                    320
Met Leu His Lys Lys Thr Val Asn Gln Lys Thr Thr Ile Tyr Glu Ile
                    325                    330                    335
Gln Asp Asp Arg Gly Lys Met Asp Val Val Gly Thr Gly Gln Cys His
                    340                    345                    350
Asn Ile Pro Cys Glu Glu Gly Asp Lys Leu Gln Leu Phe Cys Phe Arg
                    355                    360                    365
Leu Arg Lys Lys Asn Gln Met Ser Lys Leu Ile Ser Glu Met His Ser
        370                    375                    380
Phe Ile Gln Ile Lys Lys Lys Thr Asn Pro Arg Asn Asn Asp Pro Lys
385                    390                    395                    400
Ser Met Lys Leu Pro Gln Glu Gln Arg Gln Leu Pro Tyr Pro Ser Glu
                    405                    410                    415
Ala Ser Thr Thr Phe Pro Glu Ser His Leu Arg Thr Pro Gln Met Pro
                    420                    425                    430
Pro Thr Thr Pro Ser Ser Ser Phe Phe Thr Lys Lys Ser Glu Asp Thr
                    435                    440                    445
Ile Ser Lys Met Asn Asp Phe Met Arg Met Gln Ile Leu Lys Glu Gly
        450                    455                    460
Ser His Phe Pro Gly Pro Phe Met Thr Ser Ile Gly Pro Ala Glu Ser
465                    470                    475                    480
His Pro His Thr Pro Gln Met Pro Pro Ser Thr Pro Ser Ser Ser Phe
                    485                    490                    495
Leu Thr Thr Leu Lys Pro Arg Leu Lys Thr Glu Pro Glu Glu Val Ser
                    500                    505                    510
Ile Glu Asp Ser Ala Gln Ser Asp Leu Lys Glu Val Met Val Leu Asn
                    515                    520                    525
Ala Thr Glu Ser Phe Val Tyr Glu Pro Lys Glu Gln Lys Lys Met Phe
        530                    535                    540
His Ala Thr Val Ala Thr Glu Asn Glu Val Phe Arg Val Lys Val Phe
545                    550                    555                    560
Asn Ile Asp Leu Lys Glu Lys Phe Thr Pro Lys Lys Ile Ile Ala Ile
                    565                    570                    575
Ala Asn Tyr Val Cys Arg Asn Gly Phe Leu Glu Val Tyr Pro Phe Thr
                    580                    585                    590
Leu Val Ala Asp Val Asn Ala Asp Ala Asn Met Glu Ile Pro Lys Gly
        595                    600                    605
Leu Ile Arg Ser Ala Ser Val Thr Pro Lys Ile Asn Gln Leu Cys Ser
        610                    615                    620
Gln Thr Lys Gly Ser Phe Val Asn Gly Val Phe Glu Val His Lys Lys
625                    630                    635                    640
Asn Val Arg Gly Glu Phe Thr Tyr Tyr Glu Ile Gln Asp Asn Thr Gly
                    645                    650                    655
Lys Met Glu Val Val Val His Gly Arg Leu Asn Thr Ile Asn Cys Glu
                    660                    665                    670
```

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```
Glu Gly Asp Lys Leu Lys Leu Thr Ser Phe Glu Leu Ala Pro Lys Ser
        675                 680             685
Gly Asn Thr Gly Glu Leu Arg Ser Val Ile His Ser His Ile Lys Val
        690             695             700
Ile Lys Thr Lys Lys Asn Lys Lys Asp Ile Leu Asn Pro Asp Ser Ser
705             710             715             720
Met Glu Thr Ser Pro Asp Phe Phe Phe
                725
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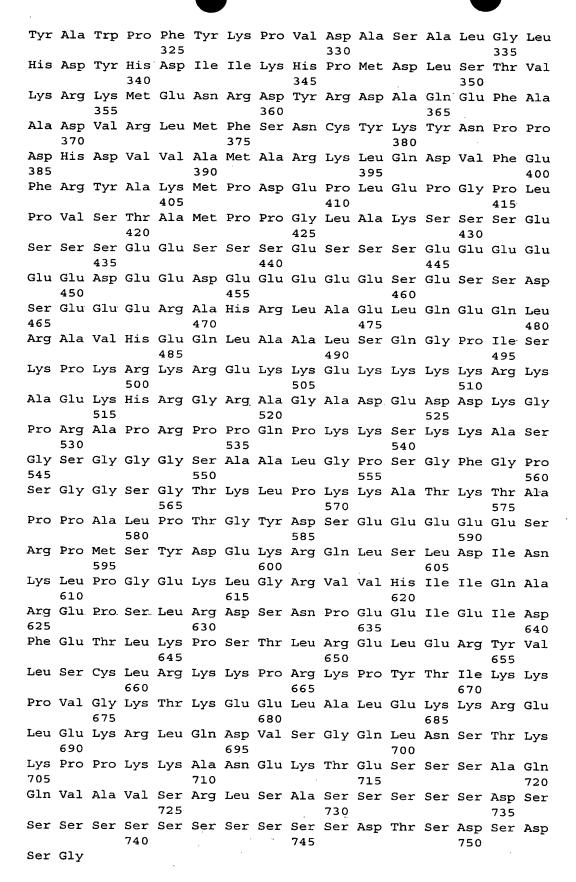
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    <210> 68
    <211> 754
    <212> PRT
    <213> Homo Sapiens

    <400> 68
Met Ala Ser Val Pro Ala Leu Gln Leu Thr Pro Ala Asn Pro Pro Pro
 1           5                 10              15
Pro Glu Val Ser Asn Pro Lys Lys Pro Gly Arg Val Thr Asn Gln Leu
            20              25              30
Gln Tyr Leu His Lys Val Val Met Lys Ala Leu Trp Lys His Gln Phe
        35              40              45
Ala Trp Pro Phe Arg Gln Pro Val Asp Ala Val Lys Leu Gly Leu Pro
        50              55              60
Asp Tyr His Lys Ile Ile Lys Gln Pro Met Asp Met Gly Thr Ile Lys
65              70              75              80
Arg Arg Leu Glu Asn Asn Tyr Tyr Trp Ala Ala Ser Glu Cys Met Gln
            85              90              95
Asp Phe Asn Thr Met Phe Thr Asn Cys Tyr Ile Tyr Asn Lys Pro Thr
            100             105             110
Asp Asp Ile Val Leu Met Ala Gln Thr Leu Glu Lys Ile Phe Leu Gln
        115             120             125
Lys Val Ala Ser Met Pro Gln Glu Glu Gln Glu Leu Val Val Thr Ile
        130             135             140
Pro Lys Asn Ser His Lys Lys Gly Ala Lys Leu Ala Ala Leu Gln Gly
145             150             155             160
Ser Val Thr Ser Ala His Gln Val Pro Ala Val Ser Ser Val Ser His
            165             170             175
Thr Ala Leu Tyr Thr Pro Pro Pro Glu Ile Pro Thr Thr Val Leu Asn
            180             185             190
Ile Pro His Pro Ser Val Ile Ser Ser Pro Leu Leu Lys Ser Leu His
        195             200             205
Ser Ala Gly Pro Pro Leu Leu Ala Val Thr Ala Ala Pro Pro Ala Gln
        210             215             220
Pro Leu Ala Lys Lys Lys Gly Val Lys Arg Lys Ala Asp Thr Thr Thr
225             230             235             240
Pro Thr Pro Thr Ala Ile Leu Ala Pro Gly Ser Pro Ala Ser Pro Pro
            245             250             255
Gly Ser Leu Glu Pro Lys Ala Ala Arg Leu Pro Pro Met Arg Arg Glu
            260             265             270
Ser Gly Arg Pro Ile Lys Pro Pro Arg Lys Asp Leu Pro Asp Ser Gln
            275             280             285
Gln Gln His Gln Ser Ser Lys Lys Gly Lys Leu Ser Glu Gln Leu Lys
        290             295             300
His Cys Asn Gly Ile Leu Lys Glu Leu Leu Ser Lys Lys His Ala Ala
305             310             315             320
```

```
Tyr Ala Trp Pro Phe Tyr Lys Pro Val Asp Ala Ser Ala Leu Gly Leu
                325             330             335
His Asp Tyr His Asp Ile Ile Lys His Pro Met Asp Leu Ser Thr Val
                340             345             350
Lys Arg Lys Met Glu Asn Arg Asp Tyr Arg Asp Ala Gln Glu Phe Ala
                355             360             365
Ala Asp Val Arg Leu Met Phe Ser Asn Cys Tyr Lys Tyr Asn Pro Pro
    370             375             380
Asp His Asp Val Val Ala Met Ala Arg Lys Leu Gln Asp Val Phe Glu
385             390             395             400
Phe Arg Tyr Ala Lys Met Pro Asp Glu Pro Leu Glu Pro Gly Pro Leu
                405             410             415
Pro Val Ser Thr Ala Met Pro Pro Gly Leu Ala Lys Ser Ser Ser Glu
                420             425             430
Ser Ser Ser Glu Glu Ser Ser Ser Glu Ser Ser Ser Glu Glu Glu Glu
                435             440             445
Glu Glu Asp Glu Glu Asp Glu Glu Glu Glu Glu Ser Glu Ser Ser Asp
    450             455             460
Ser Glu Glu Glu Arg Ala His Arg Leu Ala Glu Leu Gln Glu Gln Leu
465             470             475             480
Arg Ala Val His Glu Gln Leu Ala Ala Leu Ser Gln Gly Pro Ile Ser
                485             490             495
Lys Pro Lys Arg Lys Arg Glu Lys Lys Glu Lys Lys Lys Lys Arg Lys
                500             505             510
Ala Glu Lys His Arg Gly Arg Ala Gly Ala Asp Glu Asp Asp Lys Gly
    515             520             525
Pro Arg Ala Pro Arg Pro Gln Pro Lys Lys Ser Lys Lys Ala Ser
    530             535             540
Gly Ser Gly Gly Gly Ser Ala Ala Leu Gly Pro Ser Gly Phe Gly Pro
545             550             555             560
Ser Gly Gly Ser Gly Thr Lys Leu Pro Lys Lys Ala Thr Lys Thr Ala
                565             570             575
Pro Pro Ala Leu Pro Thr Gly Tyr Asp Ser Glu Glu Glu Glu Glu Ser
                580             585             590
Arg Pro Met Ser Tyr Asp Glu Lys Arg Gln Leu Ser Leu Asp Ile Asn
                595             600             605
Lys Leu Pro Gly Glu Lys Leu Gly Arg Val Val His Ile Ile Gln Ala
    610             615             620
Arg Glu Pro Ser Leu Arg Asp Ser Asn Pro Glu Glu Ile Glu Ile Asp
625             630             635             640
Phe Glu Thr Leu Lys Pro Ser Thr Leu Arg Glu Leu Glu Arg Tyr Val
                645             650             655
Leu Ser Cys Leu Arg Lys Lys Pro Arg Lys Pro Tyr Thr Ile Lys Lys
                660             665             670
Pro Val Gly Lys Thr Lys Glu Glu Leu Ala Leu Glu Lys Lys Arg Glu
    675             680             685
Leu Glu Lys Arg Leu Gln Asp Val Ser Gly Gln Leu Asn Ser Thr Lys
    690             695             700
Lys Pro Pro Lys Lys Ala Asn Glu Lys Thr Glu Ser Ser Ser Ala Gln
705             710             715             720
Gln Val Ala Val Ser Arg Leu Ser Ala Ser Ser Ser Ser Ser Asp Ser
                725             730             735
Ser Ser Ser Ser Ser Ser Ser Ser Ser Asp Thr Ser Asp Ser Asp
                740             745             750
Ser Gly
```

```
        <210> 69
        <211> 210
        <212> PRT
        <213> Homo Sapiens

        <400> 69
Met Asp Asp Glu Glu Glu Thr Tyr Arg Leu Trp Lys Ile Arg Lys Thr
1               5                   10                  15
Ile Met Gln Leu Cys His Asp Arg Gly Tyr Leu Val Thr Gln Asp Glu
            20                  25                  30
Leu Asp Gln Thr Leu Glu Glu Phe Lys Ala Gln Phe Gly Asp Lys Pro
        35                  40                  45
Ser Glu Gly Arg Pro Arg Arg Thr Asp Leu Thr Val Leu Val Ala His
        50              55                  60
Asn Asp Asp Pro Thr Asp Gln Met Phe Val Phe Phe Pro Glu Glu Pro
65              70                  75                  80
Lys Val Gly Ile Lys Thr Ile Lys Val Tyr Cys Gln Arg Met Gln Glu
                85                  90                  95
Glu Asn Ile Thr Arg Ala Leu Ile Val Val Gln Gln Gly Met Thr Pro
                100                 105                 110
Ser Ala Lys Gln Ser Leu Val Asp Met Ala Pro Lys Tyr Ile Leu Glu
        115                 120                 125
Gln Phe Leu Gln Gln Glu Leu Leu Ile Asn Ile Thr Glu His Glu Leu
        130                 135                     140
Val Pro Glu His Val Val Met Thr Lys Glu Glu Val Thr Glu Leu Leu
145                 150                 155                 160
Ala Arg Tyr Lys Leu Arg Glu Asn Gln Leu Pro Arg Ile Gln Ala Gly
                165                 170                 175
Asp Pro Val Ala Arg Tyr Phe Gly Ile Lys Arg Gly Gln Val Val Lys
                180                 185                 190
Ile Ile Arg Pro Ser Glu Thr Ala Gly Arg Tyr Ile Thr Tyr Arg Leu
        195                 200                 205
Val Gln
        210

        <210> 70
        <211> 621
        <212> PRT
        <213> Homo Sapiens

        <400> 70
Met Leu Leu Leu Pro Ser Ala Ala Glu Gly Gln Gly Thr Ala Ile Thr
1               5                   10                  15
His Ala Leu Thr Ser Ala Ser Ser Val Cys Gln Val Glu Pro Val Gly
            20                  25                  30
Arg Trp Phe Glu Ala Phe Val Lys Arg Arg Asn Arg Asn Ala Ser Thr
        35                  40                  45
Ser Phe Gln Glu Leu Glu Asp Lys Lys Glu Leu Ser Glu Glu Ser Glu
        50              55                  60
Asp Glu Glu Leu Gln Leu Glu Glu Phe Pro Met Leu Lys Thr Leu Asp
65              70                  75                  80
Pro Lys Asp Trp Lys Asn Gln Asp His Tyr Ala Val Leu Gly Leu Gly
                85                  90                  95
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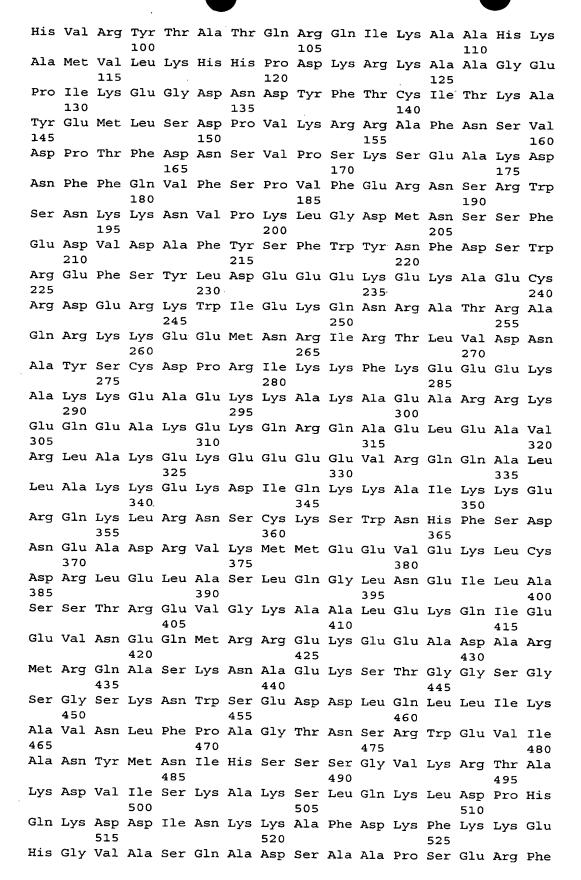
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His Val Arg Tyr Thr Ala Thr Gln Arg Gln Ile Lys Ala Ala His Lys
                100                 105                 110
Ala Met Val Leu Lys His His Pro Asp Lys Arg Lys Ala Ala Gly Glu
        115                 120                 125
Pro Ile Lys Glu Gly Asp Asn Asp Tyr Phe Thr Cys Ile Thr Lys Ala
    130                 135                 140
Tyr Glu Met Leu Ser Asp Pro Val Lys Arg Arg Ala Phe Asn Ser Val
145                 150                 155                 160
Asp Pro Thr Phe Asp Asn Ser Val Pro Ser Lys Ser Glu Ala Lys Asp
                165                 170                 175
Asn Phe Phe Gln Val Phe Ser Pro Val Phe Glu Arg Asn Ser Arg Trp
                180                 185                 190
Ser Asn Lys Lys Asn Val Pro Lys Leu Gly Asp Met Asn Ser Ser Phe
        195                 200                 205
Glu Asp Val Asp Ala Phe Tyr Ser Phe Trp Tyr Asn Phe Asp Ser Trp
    210                 215                 220
Arg Glu Phe Ser Tyr Leu Asp Glu Glu Glu Lys Glu Lys Ala Glu Cys
225                 230                 235                 240
Arg Asp Glu Arg Lys Trp Ile Glu Lys Gln Asn Arg Ala Thr Arg Ala
                245                 250                 255
Gln Arg Lys Lys Glu Glu Met Asn Arg Ile Arg Thr Leu Val Asp Asn
        260                 265                 270
Ala Tyr Ser Cys Asp Pro Arg Ile Lys Lys Phe Lys Glu Glu Glu Lys
        275                 280                 285
Ala Lys Lys Glu Ala Glu Lys Lys Ala Lys Ala Glu Ala Arg Arg Lys
    290                 295                 300
Glu Gln Glu Ala Lys Glu Lys Gln Arg Gln Ala Glu Leu Glu Ala Val
305                 310                 315                 320
Arg Leu Ala Lys Glu Lys Glu Glu Glu Val Arg Gln Gln Ala Leu
                325                 330                 335
Leu Ala Lys Lys Glu Lys Asp Ile Gln Lys Lys Ala Ile Lys Lys Glu
        340                 345                 350
Arg Gln Lys Leu Arg Asn Ser Cys Lys Ser Trp Asn His Phe Ser Asp
        355                 360                 365
Asn Glu Ala Asp Arg Val Lys Met Met Glu Glu Val Glu Lys Leu Cys
    370                 375                 380
Asp Arg Leu Glu Leu Ala Ser Leu Gln Gly Leu Asn Glu Ile Leu Ala
385                 390                 395                 400
Ser Ser Thr Arg Glu Val Gly Lys Ala Ala Leu Glu Lys Gln Ile Glu
                405                 410                 415
Glu Val Asn Glu Gln Met Arg Arg Glu Lys Glu Glu Ala Asp Ala Arg
                420                 425                 430
Met Arg Gln Ala Ser Lys Asn Ala Glu Lys Ser Thr Gly Gly Ser Gly
        435                 440                 445
Ser Gly Ser Lys Asn Trp Ser Glu Asp Asp Leu Gln Leu Leu Ile Lys
    450                 455                 460
Ala Val Asn Leu Phe Pro Ala Gly Thr Asn Ser Arg Trp Glu Val Ile
465                 470                 475                 480
Ala Asn Tyr Met Asn Ile His Ser Ser Ser Gly Val Lys Arg Thr Ala
                485                 490                 495
Lys Asp Val Ile Ser Lys Ala Lys Ser Leu Gln Lys Leu Asp Pro His
        500                 505                 510
Gln Lys Asp Asp Ile Asn Lys Lys Ala Phe Asp Lys Phe Lys Lys Glu
        515                 520                 525
His Gly Val Ala Ser Gln Ala Asp Ser Ala Ala Pro Ser Glu Arg Phe
```

```
          530                    535                    540
Glu Gly Pro Cys Ile Asp Ser Thr Pro Trp Thr Thr Glu Glu Gln Lys
545                    550                    555                    560
Leu Leu Glu Gln Ala Leu Lys Thr Tyr Pro Val Asn Thr Pro Glu Arg
              565                    570                    575
Trp Glu Lys Ile Ala Glu Ala Val Pro Gly Arg Thr Lys Lys Asp Cys
              580                    585                    590
Met Arg Arg Tyr Lys Glu Leu Val Glu Met Val Lys Ala Lys Lys Ala
          595                    600                    605
Ala Gln Glu Gln Val Leu Asn Ala Ser Arg Ala Arg Lys
      610                    615                    620
```

<210> 71
<211> 267
<212> PRT
<213> Homo Sapiens

<400> 71

```
Met Ala Ser Leu Leu Lys Val Asp Gln Glu Val Lys Leu Lys Val Asp
1               5                   10                  15
Ser Phe Arg Glu Arg Ile Thr Ser Lys Ala Glu Asp Leu Val Ala Asn
              20                  25                  30
Phe Phe Pro Lys Lys Leu Leu Glu Leu Asp Ser Phe Leu Lys Glu Pro
          35                  40                  45
Ile Leu Asn Ile His Asp Leu Thr Gln Ile His Ser Asp Met Asn Leu
      50                  55                  60
Pro Val Pro Asp Pro Ile Leu Leu Thr Asn Ser His Asp Gly Leu Asp
65                  70                  75                  80
Gly Pro Thr Tyr Lys Lys Arg Arg Leu Asp Glu Cys Glu Glu Ala Phe
              85                  90                  95
Gln Gly Thr Lys Val Phe Val Met Pro Asn Gly Met Leu Lys Ser Asn
          100                 105                 110
Gln Gln Leu Val Asp Ile Ile Glu Lys Val Lys Pro Glu Ile Arg Leu
          115                 120                 125
Leu Ile Glu Lys Cys Asn Thr Pro Ser Gly Lys Gly Pro His Ile Cys
      130                 135                 140
Phe Asp Leu Gln Val Lys Met Trp Val Gln Leu Leu Ile Pro Arg Ile
145                 150                 155                 160
Glu Asp Gly Asn Asn Phe Gly Val Ser Ile Gln Glu Glu Thr Val Ala
              165                 170                 175
Glu Leu Arg Thr Val Glu Ser Glu Ala Ala Ser Tyr Leu Asp Gln Ile
          180                 185                 190
Ser Arg Tyr Tyr Ile Thr Arg Ala Lys Leu Val Ser Lys Ile Ala Lys
          195                 200                 205
Tyr Pro His Val Glu Asp Tyr Arg Arg Thr Val Thr Glu Ile Asp Glu
      210                 215                 220
Lys Glu Tyr Ile Ser Leu Arg Leu Ile Ile Ser Glu Leu Arg Asn Gln
225                 230                 235                 240
Tyr Val Thr Leu His Asp Met Ile Leu Lys Asn Ile Glu Lys Ile Lys
              245                 250                 255
Arg Pro Arg Ser Ser Asn Ala Glu Thr Leu Tyr
          260                 265
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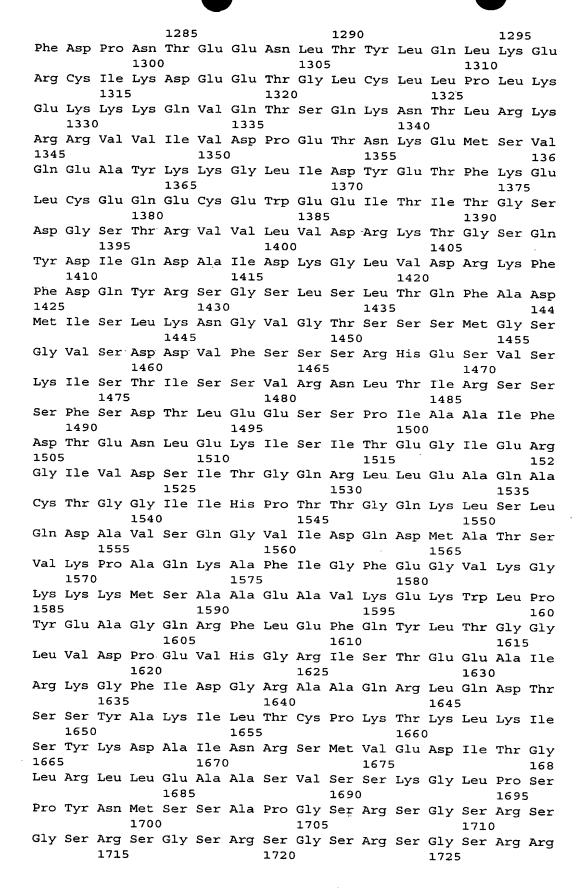
<210> 72
<211> 1752

```
<212> PRT
<213> Homo Sapiens

<400> 72
Arg Glu Lys Arg Arg Arg Lys Ser Val Glu Asp Arg Phe Asp Gln Gln
1               5                   10                  15
Lys Asn Asp Tyr Asp Gln Leu Gln Lys Ala Arg Gln Cys Glu Lys Glu
            20                  25                  30
Asn Leu Gly Trp Gln Lys Leu Glu Ser Glu Lys Ala Ile Lys Glu Lys
        35                  40                  45
Glu Tyr Glu Ile Glu Arg Leu Arg Val Leu Leu Gln Glu Glu Gly Thr
    50                  55                  60
Arg Lys Arg Glu Tyr Glu Asn Glu Leu Ala Lys Val Arg Asn His Tyr
65                  70                  75                  80
Asn Glu Glu Met Ser Asn Leu Arg Asn Lys Tyr Glu Thr Glu Ile Asn
                85                  90                  95
Ile Thr Lys Thr Thr Ile Lys Glu Ile Ser Met Gln Lys Glu Asp Asp
            100                 105                 110
Ser Lys Asn Leu Arg Asn Gln Leu Asp Arg Leu Ser Arg Glu Asn Arg
        115                 120                 125
Asp Leu Lys Asp Glu Ile Val Arg Leu Asn Asp Ser Ile Leu Gln Ala
    130                 135                 140
Thr Glu Gln Arg Arg Arg Ala Glu Glu Asn Ala Leu Gln Gln Lys Ala
145                 150                 155                 160
Cys Gly Ser Glu Ile Met Gln Lys Lys Gln His Leu Glu Ile Glu Leu
                165                 170                 175
Lys Gln Val Met Gln Gln Arg Ser Glu Asp Asn Ala Arg His Lys Gln
                180                 185                 190
Ser Leu Glu Glu Ala Ala Lys Thr Ile Gln Asp Lys Asn Lys Glu Ile
        195                 200                 205
Glu Arg Leu Lys Ala Glu Phe Gln Glu Glu Ala Lys Arg Arg Trp Glu
    210                 215                 220
Tyr Glu Asn Glu Leu Ser Lys Val Arg Asn Asn Tyr Asp Glu Glu Ile
225                 230                 235                 240
Ile Ser Leu Lys Asn Gln Phe Glu Thr Glu Ile Asn Ile Thr Lys Thr
                245                 250                 255
Thr Ile His Gln Leu Thr Met Gln Lys Glu Glu Asp Thr Ser Gly Tyr
                260                 265                 270
Arg Ala Gln Ile Asp Asn Leu Thr Arg Glu Asn Arg Ser Leu Ser Glu
        275                 280                 285
Glu Ile Lys Arg Leu Lys Asn Thr Leu Thr Gln Thr Thr Glu Asn Leu
    290                 295                 300
Arg Arg Val Glu Glu Asp Ile Gln Gln Gln Lys Ala Thr Gly Ser Glu
305                 310                 315                 320
Val Ser Gln Arg Lys Gln Gln Leu Glu Val Glu Leu Arg Gln Val Thr
                325                 330                 335
Gln Met Arg Thr Glu Glu Ser Val Arg Tyr Lys Gln Ser Leu Asp Asp
                340                 345                 350
Ala Ala Lys Thr Ile Gln Asp Lys Asn Lys Glu Ile Glu Arg Leu Lys
        355                 360                 365
Gln Leu Ile Asp Lys Glu Thr Asn Asp Arg Lys Cys Leu Glu Asp Glu
    370                 375                 380
Asn Ala Arg Leu Gln Arg Val Gln Tyr Asp Leu Gln Lys Ala Asn Ser
385                 390                 395                 400
Ser Ala Thr Glu Thr Ile Asn Lys Leu Lys Val Gln Glu Gln Glu Leu
```

```
                     405                      410                      415
Thr Arg Leu Arg Ile Asp Tyr Glu Arg Val Ser Gln Glu Arg Thr Val
            420                      425                      430
Lys Asp Gln Asp Ile Thr Arg Phe Gln Asn Ser Leu Lys Glu Leu Gln
            435                      440                      445
Leu Gln Lys Gln Lys Val Glu Glu Glu Leu Asn Arg Leu Lys Arg Thr
        450                      455                      460
Ala Ser Glu Asp Ser Cys Lys Arg Lys Lys Leu Glu Glu Glu Leu Glu
465                      470                      475                      480
Gly Met Arg Arg Ser Leu Lys Glu Gln Ala Ile Lys Ile Thr Asn Leu
            485                      490                      495
Thr Gln Gln Leu Glu Gln Ala Ser Ile Val Lys Lys Arg Ser Glu Asp
        500                      505                      510
Asp Leu Arg Gln Gln Arg Asp Val Leu Asp Gly His Leu Arg Glu Lys
        515                      520                      525
Gln Arg Thr Gln Glu Glu Leu Arg Arg Leu Ser Ser Glu Val Glu Ala
    530                      535                      540
Leu Arg Arg Gln Leu Leu Gln Glu Gln Glu Ser Val Lys Gln Ala His
545                      550                      555                      560
Leu Arg Asn Glu His Phe Gln Lys Ala Ile Glu Asp Lys Ser Arg Ser
            565                      570                      575
Leu Asn Glu Ser Lys Ile Glu Ile Glu Arg Leu Gln Ser Leu Thr Glu
        580                      585                      590
Asn Leu Thr Lys Glu His Leu Met Leu Glu Glu Glu Leu Arg Asn Leu
        595                      600                      605
Arg Leu Glu Tyr Asp Asp Leu Arg Arg Gly Arg Ser Glu Ala Asp Ser
    610                      615                      620
Asp Lys Asn Ala Thr Ile Leu Glu Leu Arg Ser Gln Leu Gln Ile Ser
625                      630                      635                      640
Asn Asn Arg Thr Leu Glu Leu Gln Gly Leu Ile Asn Asp Leu Gln Arg
            645                      650                      655
Glu Arg Glu Asn Leu Arg Gln Glu Ile Glu Lys Phe Gln Lys Gln Ala
            660                      665                      670
Leu Glu Ala Ser Asn Arg Ile Gln Glu Ser Lys Asn Gln Cys Thr Gln
    675                      680                      685
Val Val Gln Glu Arg Glu Ser Leu Leu Val Lys Ile Lys Val Leu Glu
    690                      695                      700
Gln Asp Lys Ala Arg Leu Gln Arg Leu Glu Asp Glu Leu Asn Arg Ala
705                      710                      715                      720
Lys Ser Thr Leu Glu Ala Glu Thr Arg Val Lys Gln Arg Leu Glu Cys
            725                      730                      735
Glu Lys Gln Gln Ile Gln Asn Asp Leu Asn Gln Trp Lys Thr Gln Tyr
            740                      745                      750
Ser Arg Lys Glu Glu Ala Ile Arg Lys Ile Glu Ser Glu Arg Glu Lys
        755                      760                      765
Ser Glu Arg Glu Lys Asn Ser Leu Arg Ser Glu Ile Glu Arg Leu Gln
    770                      775                      780
Ala Glu Ile Lys Arg Ile Glu Glu Arg Cys Arg Arg Lys Leu Glu Asp
785                      790                      795                      800
Ser Thr Arg Glu Thr Gln Ser Gln Leu Glu Thr Glu Arg Ser Arg Tyr
            805                      810                      815
Gln Arg Glu Ile Asp Lys Leu Arg Gln Arg Pro Tyr Gly Ser His Arg
        820                      825                      830
Glu Thr Gln Thr Glu Cys Glu Trp Thr Val Asp Thr Ser Lys Leu Val
        835                      840                      845
```

```
Phe Asp Gly Leu Arg Lys Lys Val Thr Ala Met Gln Leu Tyr Glu Cys
    850               855               860
Gln Leu Ile Asp Lys Thr Thr Leu Asp Lys Leu Leu Lys Gly Lys Lys
865               870               875               880
Ser Val Glu Glu Val Ala Ser Glu Ile Gln Pro Phe Leu Arg Gly Ala
              885               890               895
Gly Ser Ile Ala Gly Ala Ser Ala Ser Pro Lys Glu Lys Tyr Ser Leu
          900               905               910
Val Glu Ala Lys Arg Lys Lys Leu Ile Ser Pro Glu Ser Thr Val Met
        915               920               925
Leu Leu Glu Ala Gln Ala Ala Thr Gly Gly Ile Ile Asp Pro His Arg
    930               935               940
Asn Glu Lys Leu Thr Val Asp Ser Ala Ile Ala Arg Asp Leu Ile Asp
945               950               955               960
Phe Asp Asp Arg Gln Gln Ile Tyr Ala Ala Glu Lys Ala Ile Thr Gly
              965               970               975
Phe Asp Asp Pro Phe Ser Gly Lys Thr Val Ser Val Ser Glu Ala Ile
              980               985               990
Lys Lys Asn Leu Ile Asp Arg Glu Thr Gly Met Arg Leu Leu Glu Ala
          995               1000              1005
Gln Ile Ala Ser Gly Gly Val Val Asp Pro Val Asn Ser Val Phe Leu
    1010              1015              1020
Pro Lys Asp Val Ala Leu Ala Arg Gly Leu Ile Asp Arg Asp Leu Tyr
1025              1030              1035              104
Arg Ser Leu Asn Asp Pro Arg Asp Ser Gln Lys Asn Phe Val Asp Pro
              1045              1050              1055
Val Thr Lys Lys Lys Val Ser Tyr Val Gln Leu Lys Glu Arg Cys Arg
              1060              1065              1070
Ile Glu Pro His Thr Gly Leu Leu Leu Leu Ser Val Gln Lys Arg Ser
              1075              1080              1085
Met Ser Phe Gln Gly Ile Arg Gln Pro Val Thr Val Thr Glu Leu Val
    1090              1095              1100
Asp Ser Gly Ile Leu Arg Pro Ser Thr Val Asn Glu Leu Glu Ser Gly
1105              1110              1115              112
Gln Ile Ser Tyr Asp Glu Val Gly Glu Arg Ile Lys Asp Phe Leu Gln
              1125              1130              1135
Gly Ser Ser Cys Ile Ala Gly Ile Tyr Asn Glu Thr Thr Lys Gln Lys
          1140              1145              1150
Leu Gly Ile Tyr Glu Ala Met Lys Ile Gly Leu Val Arg Pro Gly Thr
          1155              1160              1165
Ala Leu Glu Leu Leu Glu Ala Gln Ala Ala Thr Gly Phe Ile Val Asp
    1170              1175              1180
Pro Val Ser Asn Leu Arg Leu Pro Val Glu Glu Ala Tyr Lys Arg Gly
1185              1190              1195              120
Leu Val Gly Ile Glu Phe Lys Glu Lys Leu Leu Ser Ala Glu Arg Ala
          1205              1210              1215
Val Thr Gly Tyr Asn Asp Pro Glu Thr Gly Asn Ile Ile Ser Leu Phe
          1220              1225              1230
Gln Ala Met Asn Lys Glu Leu Ile Glu Lys Gly His Gly Ile Arg Leu
    1235              1240              1245
Leu Glu Ala Gln Ile Ala Thr Gly Gly Ile Ile Asp Pro Lys Glu Ser
    1250              1255              1260
His Arg Leu Pro Val Asp Ile Ala Tyr Lys Arg Gly Tyr Phe Asn Glu
1265              1270              1275              128
Glu Leu Ser Glu Ile Leu Ser Asp Pro Ser Asp Asp Thr Lys Gly Phe
```

```
                      1285                1290                1295
Phe Asp Pro Asn Thr Glu Glu Asn Leu Thr Tyr Leu Gln Leu Lys Glu
                 1300                1305                1310
Arg Cys Ile Lys Asp Glu Glu Thr Gly Leu Cys Leu Leu Pro Leu Lys
                 1315                1320                1325
Glu Lys Lys Lys Gln Val Gln Thr Ser Gln Lys Asn Thr Leu Arg Lys
                 1330                1335                1340
Arg Arg Val Val Ile Val Asp Pro Glu Thr Asn Lys Glu Met Ser Val
            1345                1350                1355            136
Gln Glu Ala Tyr Lys Lys Gly Leu Ile Asp Tyr Glu Thr Phe Lys Glu
                 1365                1370                1375
Leu Cys Glu Gln Glu Cys Glu Trp Glu Glu Ile Thr Ile Thr Gly Ser
                 1380                1385                1390
Asp Gly Ser Thr Arg Val Val Leu Val Asp Arg Lys Thr Gly Ser Gln
                 1395                1400                1405
Tyr Asp Ile Gln Asp Ala Ile Asp Lys Gly Leu Val Asp Arg Lys Phe
            1410                1415                1420
Phe Asp Gln Tyr Arg Ser Gly Ser Leu Ser Leu Thr Gln Phe Ala Asp
       1425                1430                1435            144
Met Ile Ser Leu Lys Asn Gly Val Gly Thr Ser Ser Ser Met Gly Ser
                 1445                1450                1455
Gly Val Ser Asp Asp Val Phe Ser Ser Arg His Glu Ser Val Ser
                 1460                1465                1470
Lys Ile Ser Thr Ile Ser Ser Val Arg Asn Leu Thr Ile Arg Ser Ser
                 1475                1480                1485
Ser Phe Ser Asp Thr Leu Glu Glu Ser Ser Pro Ile Ala Ala Ile Phe
            1490                1495                1500
Asp Thr Glu Asn Leu Glu Lys Ile Ser Ile Thr Glu Gly Ile Glu Arg
       1505                1510                1515            152
Gly Ile Val Asp Ser Ile Thr Gly Gln Arg Leu Leu Glu Ala Gln Ala
                 1525                1530                1535
Cys Thr Gly Gly Ile Ile His Pro Thr Thr Gly Gln Lys Leu Ser Leu
                 1540                1545                1550
Gln Asp Ala Val Ser Gln Gly Val Ile Asp Gln Asp Met Ala Thr Ser
            1555                1560                1565
Val Lys Pro Ala Gln Lys Ala Phe Ile Gly Phe Glu Gly Val Lys Gly
       1570                1575                1580
Lys Lys Lys Met Ser Ala Ala Glu Ala Val Lys Glu Lys Trp Leu Pro
       1585                1590                1595            160
Tyr Glu Ala Gly Gln Arg Phe Leu Glu Phe Gln Tyr Leu Thr Gly Gly
                 1605                1610                1615
Leu Val Asp Pro Glu Val His Gly Arg Ile Ser Thr Glu Glu Ala Ile
            1620                1625                1630
Arg Lys Gly Phe Ile Asp Gly Arg Ala Ala Gln Arg Leu Gln Asp Thr
            1635                1640                1645
Ser Ser Tyr Ala Lys Ile Leu Thr Cys Pro Lys Thr Lys Leu Lys Ile
       1650                1655                1660
Ser Tyr Lys Asp Ala Ile Asn Arg Ser Met Val Glu Asp Ile Thr Gly
    1665                1670                1675            168
Leu Arg Leu Leu Glu Ala Ala Ser Val Ser Ser Lys Gly Leu Pro Ser
            1685                1690                1695
Pro Tyr Asn Met Ser Ser Ala Pro Gly Ser Arg Ser Gly Ser Arg Ser
            1700                1705                1710
Gly Ser Arg Ser Gly Ser Arg Ser Gly Ser Arg Ser Gly Ser Arg Arg
            1715                1720                1725
```

```
Gly Ser Phe Asp Ala Thr Gly Asn Ser Ser Tyr Ser Tyr Ser Tyr Ser
    1730                1735                1740
Phe Ser Ser Ser Ser Ile Gly His
1745                1750


        <210> 73
        <211> 1978
        <212> PRT
        <213> Homo Sapiens


        <400> 73
Met Ser Arg Pro Arg Phe Asn Pro Arg Gly Asp Phe Pro Leu Gln Arg
  1                 5                 10                15
Pro Arg Ala Pro Asn Pro Ser Gly Met Arg Pro Pro Gly Pro Phe Met
                20                25                30
Arg Pro Gly Ser Met Gly Leu Pro Arg Phe Tyr Pro Ala Gly Arg Ala
        35                40                45
Arg Gly Ile Pro His Arg Phe Ala Gly Leu Glu Ser Tyr Gln Asn Met
    50                55                60
Gly Pro Gln Arg Met Asn Val Gln Val Thr Gln His Arg Thr Asp Pro
65                70                75                80
Arg Leu Thr Lys Glu Lys Leu Asp Phe His Glu Ala Gln Gln Lys Lys
                85                90                95
Gly Lys Pro His Gly Ser Arg Trp Asp Asp Glu Pro His Ile Ser Ala
            100                105                110
Ser Val Ala Val Lys Gln Ser Ser Val Thr Gln Val Thr Glu Gln Ser
            115                120                125
Pro Lys Val Gln Ser Arg Tyr Thr Lys Glu Ser Ala Ser Ser Ile Leu
        130                135                140
Ala Ser Phe Gly Leu Ser Asn Glu Asp Leu Glu Glu Leu Ser Arg Tyr
145                150                155                160
Pro Asp Glu Gln Leu Thr Pro Glu Asn Met Pro Leu Ile Leu Arg Asp
                165                170                175
Ile Arg Met Arg Lys Met Gly Arg Arg Leu Pro Asn Leu Pro Ser Gln
            180                185                190
Ser Arg Asn Lys Glu Thr Leu Gly Ser Glu Ala Val Ser Ser Asn Val
        195                200                205
Ile Asp Tyr Gly His Ala Ser Lys Tyr Gly Tyr Thr Glu Asp Pro Leu
    210                215                220
Glu Val Arg Ile Tyr Asp Pro Glu Ile Pro Thr Asp Glu Val Glu Asn
225                230                235                240
Glu Phe Gln Ser Gln Gln Asn Ile Ser Ala Ser Val Pro Asn Pro Asn
                245                250                255
Val Ile Cys Asn Ser Met Phe Pro Val Glu Asp Val Phe Arg Gln Met
            260                265                270
Asp Phe Pro Gly Glu Ser Ser Asn Asn Arg Ser Phe Phe Ser Val Glu
        275                280                285
Ser Gly Thr Lys Met Ser Gly Leu His Ile Ser Gly Gly Gln Ser Val
        290                295                300
Leu Glu Pro Ile Lys Ser Val Asn Gln Ser Ile Asn Gln Thr Val Ser
305                310                315                320
Gln Thr Met Ser Gln Ser Leu Ile Pro Pro Ser Met Asn Gln Gln Pro
                325                330                335
Phe Ser Ser Glu Leu Ile Ser Ser Val Ser Gln Gln Glu Arg Ile Pro
        340                345                350
```

```
His Glu Pro Val Ile Asn Ser Ser Asn Val His Val Gly Ser Arg Gly
        355                 360             365
Ser Lys Lys Asn Tyr Gln Ser Gln Ala Asp Ile Pro Ile Arg Ser Pro
    370                 375             380
Phe Gly Ile Val Lys Ala Ser Trp Leu Pro Lys Phe Ser His Ala Asp
385                 390             395                 400
Ala Gln Lys Met Lys Arg Leu Pro Thr Pro Ser Met Met Asn Asp Tyr
            405             410                 415
Tyr Ala Ala Ser Pro Arg Ile Phe Pro His Leu Cys Ser Leu Cys Asn
            420             425                 430
Val Glu Cys Ser His Leu Lys Asp Trp Ile Gln His Gln Asn Thr Ser
            435             440                 445
Thr His Ile Glu Ser Cys Arg Gln Leu Arg Gln Gln Tyr Pro Asp Trp
    450             455             460
Asn Pro Glu Ile Leu Pro Ser Arg Arg Asn Glu Gly Asn Arg Lys Glu
465             470             475                 480
Asn Glu Thr Pro Arg Arg Arg Ser His Ser Pro Ser Pro Arg Arg Ser
            485             490                 495
Arg Arg Ser Ser Ser Ser His Arg Phe Arg Arg Ser Arg Ser Pro Met
        500             505             510
His Tyr Met Tyr Arg Pro Arg Ser Arg Ser Pro Arg Ile Cys His Arg
        515             520             525
Phe Ile Ser Arg Tyr Arg Ser Arg Ser Arg Ser Arg Ser Pro Tyr Arg
    530             535             540
Ile Arg Asn Pro Phe Arg Gly Ser Pro Lys Cys Phe Arg Ser Val Ser
545             550             555                 560
Pro Glu Arg Met Ser Arg Arg Ser Val Arg Ser Ser Asp Arg Lys Lys
            565             570                 575
Ala Leu Glu Asp Val Val Gln Arg Ser Gly His Gly Thr Glu Phe Asn
            580             585                 590
Lys Gln Lys His Leu Glu Ala Ala Asp Lys Gly His Ser Pro Ala Gln
        595             600             605
Lys Pro Lys Thr Ser Ser Gly Thr Lys Pro Ser Val Lys Pro Thr Ser
    610             615             620
Ala Thr Lys Ser Asp Ser Asn Leu Gly Gly His Ser Ile Arg Cys Lys
625             630             635                 640
Ser Lys Asn Leu Glu Asp Asp Thr Leu Ser Glu Cys Lys Gln Val Ser
            645             650                 655
Asp Lys Ala Val Ser Leu Gln Arg Lys Leu Arg Lys Glu Gln Ser Leu
            660             665                 670
His Tyr Gly Ser Val Leu Leu Ile Thr Glu Leu Pro Glu Asp Gly Cys
        675             680             685
Thr Glu Glu Asp Val Arg Lys Leu Phe Gln Pro Phe Gly Lys Val Asn
    690             695             700
Asp Val Leu Ile Val Pro Tyr Arg Lys Glu Ala Tyr Leu Glu Met Glu
705             710             715                 720
Phe Lys Glu Ala Ile Thr Ala Ile Met Lys Tyr Ile Glu Thr Thr Pro
            725             730                 735
Leu Thr Ile Lys Gly Lys Ser Val Lys Ile Cys Val Pro Gly Lys Lys
            740             745                 750
Lys Ala Gln Asn Lys Glu Val Lys Lys Lys Thr Leu Glu Ser Lys Lys
        755             760             765
Val Ser Ala Ser Thr Leu Lys Arg Asp Ala Asp Ala Ser Lys Ala Val
770             775             780
Glu Ile Val Thr Ser Thr Ser Ala Ala Lys Thr Gly Gln Ala Lys Ala
```

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```
     785                  790                  795                  800
Cys Val Ala Lys Val Asn Lys Ser Thr Gly Lys Ser Ala Ser Ser Val
                   805                  810                  815
Lys Ser Val Val Thr Val Ala Val Lys Gly Asn Lys Ala Ser Ile Lys
                   820                  825                  830
Thr Ala Lys Ser Gly Gly Lys Lys Ser Leu Glu Ala Lys Lys Thr Gly
                   835                  840                  845
Asn Val Lys Asn Lys Asp Ser Asn Lys Pro Val Thr Ile Pro Glu Asn
         850                  855                  860
Ser Glu Ile Lys Thr Ser Ile Glu Val Lys Ala Thr Glu Asn Cys Ala
865                  870                  875                  880
Lys Glu Ala Ile Ser Asp Ala Ala Leu Glu Ala Thr Glu Asn Glu Pro
                   885                  890                  895
Leu Asn Lys Glu Thr Glu Glu Met Cys Val Met Leu Val Ser Asn Leu
                   900                  905                  910
Pro Asn Lys Gly Tyr Ser Val Glu Glu Val Tyr Asp Leu Ala Lys Pro
                   915                  920                  925
Phe Gly Gly Leu Lys Asp Ile Leu Ile Leu Ser Ser His Lys Lys Ala
         930                  935                  940
Tyr Ile Glu Ile Asn Arg Lys Ala Ala Glu Ser Met Val Lys Phe Tyr
945                  950                  955                  960
Thr Cys Phe Pro Val Leu Met Asp Gly Asn Gln Leu Ser Ile Ser Met
                   965                  970                  975
Ala Pro Glu Asn Met Asn Ile Lys Asp Glu Glu Ala Ile Phe Ile Thr
                   980                  985                  990
Leu Val Lys Glu Asn Asp Pro Glu Ala Asn Ile Asp Thr Ile Tyr Asp
                   995                  1000                 1005
Arg Phe Val His Leu Asp Asn Leu Pro Glu Asp Gly Leu Gln Cys Val
         1010                 1015                 1020
Leu Cys Val Gly Leu Gln Phe Gly Lys Val Asp His His Val Phe Ile
1025                 1030                 1035                 104
Ser Asn Arg Asn Lys Ala Ile Leu Gln Leu Asp Ser Pro Glu Ser Ala
                   1045                 1050                 1055
Gln Ser Met Tyr Ser Phe Leu Lys Gln Asn Pro Gln Asn Ile Gly Asp
                   1060                 1065                 1070
His Met Leu Thr Cys Ser Leu Ser Pro Lys Ile Asp Leu Pro Glu Val
                   1075                 1080                 1085
Gln Ile Glu His Asp Pro Glu Leu Glu Lys Glu Ser Pro Gly Leu Lys
         1090                 1095                 1100
Asn Ser Pro Ile Asp Glu Ser Glu Val Gln Thr Ala Thr Asp Ser Pro
1105                 1110                 1115                 112
Ser Val Lys Pro Asn Glu Leu Glu Glu Glu Ser Thr Pro Ser Ile Gln
                   1125                 1130                 1135
Thr Glu Thr Leu Val Gln Gln Glu Glu Pro Cys Glu Glu Glu Ala Glu
                   1140                 1145                 1150
Lys Ala Thr Cys Asp Ser Asp Phe Ala Val Glu Thr Leu Glu Leu Glu
         1155                 1160                 1165
Thr Gln Gly Glu Glu Val Lys Glu Glu Ile Pro Leu Val Ala Ser Ala
         1170                 1175                 1180
Ser Val Ser Ile Glu Gln Phe Thr Glu Asn Ala Glu Glu Cys Ala Leu
1185                 1190                 1195                 120
Asn Gln Gln Met Phe Asn Ser Asp Leu Glu Lys Lys Gly Ala Glu Ile
                   1205                 1210                 1215
Ile Asn Pro Lys Thr Ala Leu Leu Pro Ser Asp Ser Val Phe Ala Glu
         1220                 1225                 1230
```

```
Glu Arg Asn Leu Lys Gly Ile Leu Glu Glu Ser Pro Ser Glu Ala Glu
          1235                1240                1245
Asp Phe Ile Ser Gly Ile Thr Gln Thr Met Val Glu Ala Val Ala Glu
          1250                1255                1260
Val Glu Lys Asn Glu Thr Val Ser Glu Ile Leu Pro Ser Thr Cys Ile
1265                1270                1275                128
Val Thr Leu Val Pro Gly Ile Pro Thr Gly Asp Glu Lys Thr Val Asp
          1285                1290                1295
Lys Lys Asn Ile Ser Glu Lys Lys Gly Asn Met Asp Glu Lys Glu Glu
          1300                1305                1310
Lys Glu Phe Asn Thr Lys Glu Thr Arg Met Asp Leu Gln Ile Gly Thr
          1315                1320                1325
Glu Lys Ala Glu Lys Asn Glu Gly Arg Met Asp Ala Glu Lys Val Glu
          1330                1335                1340
Lys Met Ala Ala Met Lys Glu Lys Pro Ala Glu Asn Thr Leu Phe Lys
1345                1350                1355                136
Ala Tyr Pro Asn Lys Gly Val Gly Gln Ala Asn Lys Pro Asp Glu Thr
          1365                1370                1375
Ser Lys Thr Ser Ile Leu Ala Val Ser Asp Val Ser Ser Ser Lys Pro
          1380                1385                1390
Ser Ile Lys Ala Val Ile Val Ser Ser Pro Lys Ala Lys Ala Thr Val
          1395                1400                1405
Ser Lys Thr Glu Asn Gln Lys Ser Phe Pro Lys Ser Val Pro Arg Asp
          1410                1415                1420
Gln Ile Asn Ala Glu Lys Lys Leu Ser Ala Lys Glu Phe Gly Leu Leu
1425                1430                1435                144
Lys Pro Thr Ser Ala Arg Ser Gly Leu Ala Glu Ser Ser Ser Lys Phe
          1445                1450                1455
Lys Pro Thr Gln Ser Ser Leu Thr Arg Gly Gly Ser Gly Arg Ile Ser
          1460                1465                1470
Ala Leu Gln Gly Lys Leu Ser Lys Leu Asp Tyr Arg Asp Ile Thr Lys
          1475                1480                1485
Gln Ser Gln Glu Thr Glu Ala Arg Pro Ser Ile Met Lys Arg Asp Asp
          1490                1495                1500
Ser Asn Asn Lys Thr Leu Ala Glu Gln Asn Thr Lys Asn Pro Lys Ser
1505                1510                1515                152
Thr Thr Gly Arg Ser Ser Lys Ser Lys Glu Glu Pro Leu Phe Pro Phe
          1525                1530                1535
Asn Leu Asp Glu Phe Val Thr Val Asp Glu Val Ile Glu Glu Val Asn
          1540                1545                1550
Pro Ser Gln Ala Lys Gln Asn Pro Leu Lys Gly Lys Arg Lys Glu Thr
          1555                1560                1565
Leu Lys Asn Val Pro Phe Ser Glu Leu Asn Leu Lys Lys Lys Lys Gly
          1570                1575                1580
Lys Thr Ser Thr Pro Arg Gly Val Glu Gly Glu Leu Ser Phe Val Thr
1585                1590                1595                160
Leu Asp Glu Ile Gly Glu Glu Glu Asp Ala Ala Ala His Leu Ala Gln
          1605                1610                1615
Ala Leu Val Thr Val Asp Glu Val Ile Asp Glu Glu Glu Leu Asn Met
          1620                1625                1630
Glu Glu Met Val Lys Asn Ser Asn Ser Leu Phe Thr Leu Asp Glu Leu
          1635                1640                1645
Ile Asp Gln Asp Asp Cys Ile Ser His Ser Glu Pro Lys Asp Val Thr
          1650                1655                1660
Val Leu Ser Val Ala Glu Glu Gln Asp Leu Leu Lys Gln Glu Arg Leu
```

```
1665                    1670                    1675                    168
Val Thr Val Asp Glu Ile Gly Glu Val Glu Glu Leu Pro Leu Asn Glu
                        1685                    1690                    1695
Ser Ala Asp Ile Thr Phe Ala Thr Leu Asn Thr Lys Gly Asn Glu Gly
                1700                    1705                    1710
Asp Ile Val Arg Asp Ser Ile Gly Phe Ile Ser Ser Gln Val Pro Glu
        1715                    1720                    1725
Asp Pro Ser Thr Leu Val Thr Val Asp Glu Ile Gln Asp Asp Ser Ser
    1730                    1735                    1740
Asp Leu His Leu Val Thr Leu Asp Glu Val Thr Glu Glu Asp Glu Asp
1745                    1750                    1755                    176
Ser Leu Ala Asp Phe Asn Asn Leu Lys Glu Glu Leu Asn Phe Val Thr
                1765                    1770                    1775
Val Asp Glu Val Gly Glu Glu Glu Asp Gly Asp Asn Asp Leu Lys Val
                1780                    1785                    1790
Glu Leu Ala Gln Ser Lys Asn Asp His Pro Thr Asp Lys Lys Gly Asn
            1795                    1800                    1805
Arg Lys Lys Arg Ala Val Asp Thr Lys Lys Thr Lys Leu Glu Ser Leu
        1810                    1815                    1820
Ser Gln Val Gly Pro Val Asn Glu Asn Val Met Glu Glu Asp Leu Lys
1825                    1830                    1835                    184
Thr Met Ile Glu Arg His Leu Thr Ala Lys Thr Pro Thr Lys Arg Val
                1845                    1850                    1855
Arg Ile Gly Lys Thr Leu Pro Ser Glu Lys Ala Val Val Thr Glu Pro
                1860                    1865                    1870
Ala Lys Gly Glu Glu Ala Phe Gln Met Ser Glu Val Asp Glu Glu Ser
            1875                    1880                    1885
Gly Leu Lys Asp Ser Glu Pro Glu Arg Lys Arg Lys Lys Thr Glu Asp
        1890                    1895                    1900
Ser Ser Ser Gly Lys Ser Val Ala Ser Asp Val Pro Glu.Glu Leu Asp
1905                    1910                    1915                    192
Phe Leu Val Pro Lys Ala Gly Phe Phe Cys Pro Ile Cys Ser Leu Phe
                1925                    1930                    1935
Tyr Ser Gly Glu Lys Ala Met Thr Asn His Cys Lys Ser Thr Arg His
            1940                    1945                    1950
Lys Gln Asn Thr Glu Lys Phe Met Ala Lys Gln Arg Lys Glu Lys Glu
        1955                    1960                    1965
Gln Asn Glu Ala Glu Glu Arg Ser Ser Arg
    1970                    1975
```

```
        <210> 74
        <211> 366
        <212> PRT
        <213> Homo Sapiens


        <400> 74
Met Arg Val Met Ala Pro Arg Thr Leu Ile Leu Leu Leu Ser Gly Ala
  1                 5                   10                  15
Leu Ala Leu Thr Glu Thr Trp Ala Gly Ser His Ser Met Arg Tyr Phe
                20                  25                  30
Tyr Thr Ala Val Ser Arg Pro Gly Arg Gly Glu Pro His Phe Ile Ala
            35                  40                  45
Val Gly Tyr Val Asp Asp Thr Gln Phe Val Arg Phe Asp Ser Asp Ala
    50                  55                  60
Ala Ser Pro Arg Gly Glu Pro Arg Ala Pro Trp Val Glu Gln Glu Gly
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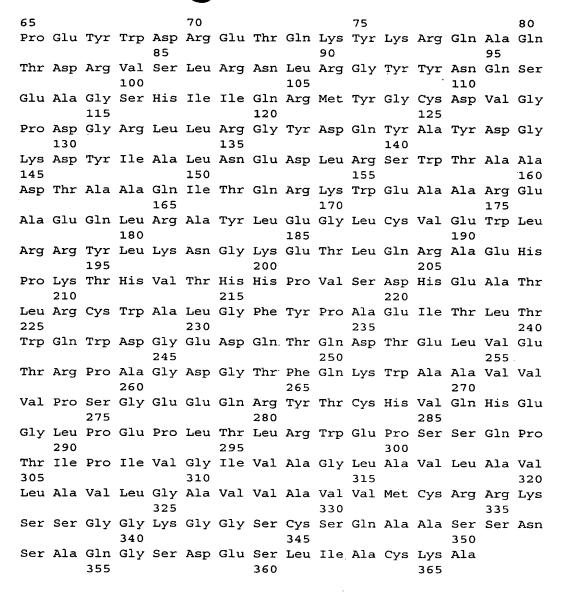
```
65                    70                    75                    80
Pro Glu Tyr Trp Asp Arg Glu Thr Gln Lys Tyr Lys Arg Gln Ala Gln
                85                    90                    95
Thr Asp Arg Val Ser Leu Arg Asn Leu Arg Gly Tyr Tyr Asn Gln Ser
                100                   105                   110
Glu Ala Gly Ser His Ile Ile Gln Arg Met Tyr Gly Cys Asp Val Gly
                115                   120                   125
Pro Asp Gly Arg Leu Leu Arg Gly Tyr Asp Gln Tyr Ala Tyr Asp Gly
        130                   135                   140
Lys Asp Tyr Ile Ala Leu Asn Glu Asp Leu Arg Ser Trp Thr Ala Ala
145                   150                   155                   160
Asp Thr Ala Ala Gln Ile Thr Gln Arg Lys Trp Glu Ala Ala Arg Glu
                165                   170                   175
Ala Glu Gln Leu Arg Ala Tyr Leu Glu Gly Leu Cys Val Glu Trp Leu
                180                   185                   190
Arg Arg Tyr Leu Lys Asn Gly Lys Glu Thr Leu Gln Arg Ala Glu His
                195                   200                   205
Pro Lys Thr His Val Thr His His Pro Val Ser Asp His Glu Ala Thr
        210                   215                   220
Leu Arg Cys Trp Ala Leu Gly Phe Tyr Pro Ala Glu Ile Thr Leu Thr
225                   230                   235                   240
Trp Gln Trp Asp Gly Glu Asp Gln Thr Gln Asp Thr Glu Leu Val Glu
                245                   250                   255
Thr Arg Pro Ala Gly Asp Gly Thr Phe Gln Lys Trp Ala Ala Val Val
                260                   265                   270
Val Pro Ser Gly Glu Glu Gln Arg Tyr Thr Cys His Val Gln His Glu
                275                   280                   285
Gly Leu Pro Glu Pro Leu Thr Leu Arg Trp Glu Pro Ser Ser Gln Pro
        290                   295                   300
Thr Ile Pro Ile Val Gly Ile Val Ala Gly Leu Ala Val Leu Ala Val
305                   310                   315                   320
Leu Ala Val Leu Gly Ala Val Val Ala Val Val Met Cys Arg Arg Lys
                325                   330                   335
Ser Ser Gly Gly Lys Gly Gly Ser Cys Ser Gln Ala Ala Ser Ser Asn
                340                   345                   350
Ser Ala Gln Gly Ser Asp Glu Ser Leu Ile Ala Cys Lys Ala
        355                   360                   365
```

```
        <210> 75
        <211> 240
        <212> PRT
        <213> Homo Sapiens


        <400> 75
Met Gly Leu Glu Leu Tyr Leu Asp Leu Leu Ser Gln Pro Cys Arg Ala
1                   5                     10                    15
Val Tyr Ile Phe Ala Lys Lys Asn Asp Ile Pro Phe Glu Leu Arg Ile
                20                    25                    30
Val Asp Leu Ile Lys Gly Gln His Leu Ser Asp Ala Phe Ala Gln Val
        35                    40                    45
Asn Pro Leu Lys Lys Val Pro Ala Leu Lys Asp Gly Asp Phe Thr Leu
        50                    55                    60
Thr Glu Ser Val Ala Ile Leu Leu Tyr Leu Thr Arg Lys Tyr Lys Val
65                    70                    75                    80
Pro Asp Tyr Trp Tyr Pro Gln Asp Leu Gln Ala Arg Ala Arg Val Asp
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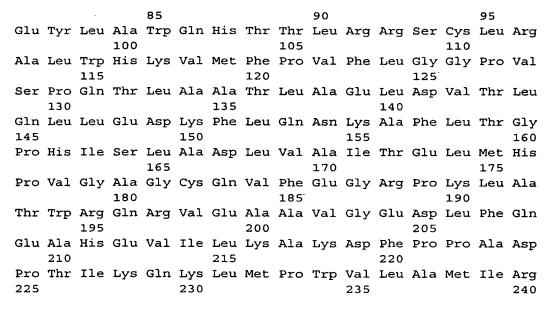
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                    85                     90                     95
Glu Tyr Leu Ala Trp Gln His Thr Thr Leu Arg Arg Ser Cys Leu Arg
                   100                    105                    110
Ala Leu Trp His Lys Val Met Phe Pro Val Phe Leu Gly Gly Pro Val
                   115                    120                    125
Ser Pro Gln Thr Leu Ala Ala Thr Leu Ala Glu Leu Asp Val Thr Leu
    130                    135                    140
Gln Leu Leu Glu Asp Lys Phe Leu Gln Asn Lys Ala Phe Leu Thr Gly
145                    150                    155                    160
Pro His Ile Ser Leu Ala Asp Leu Val Ala Ile Thr Glu Leu Met His
                   165                    170                    175
Pro Val Gly Ala Gly Cys Gln Val Phe Glu Gly Arg Pro Lys Leu Ala
                   180                    185                    190
Thr Trp Arg Gln Arg Val Glu Ala Ala Val Gly Glu Asp Leu Phe Gln
                   195                    200                    205
Glu Ala His Glu Val Ile Leu Lys Ala Lys Asp Phe Pro Pro Ala Asp
    210                    215                    220
Pro Thr Ile Lys Gln Lys Leu Met Pro Trp Val Leu Ala Met Ile Arg
225                    230                    235                    240


        <210> 76
        <211> 953
        <212> PRT
        <213> Homo Sapiens

        <400> 76
Met Ile Thr Ser Ala Ala Gly Ile Ile Ser Leu Leu Asp Glu Asp Glu
 1               5                   10                     15
Pro Gln Leu Lys Glu Phe Ala Leu His Lys Leu Asn Ala Val Val Asn
                 20                  25                   30
Asp Phe Trp Ala Glu Ile Ser Glu Ser Val Asp Lys Ile Glu Val Leu
             35                  40                     45
Tyr Glu Asp Glu Gly Phe Arg Ser Arg Gln Phe Ala Ala Leu Val Ala
    50                  55                     60
Ser Lys Val Phe Tyr His Leu Gly Ala Phe Glu Glu Ser Leu Asn Tyr
65                  70                     75                     80
Ala Leu Gly Ala Arg Asp Leu Phe Asn Val Asn Asp Asn Ser Glu Tyr
                 85                  90                     95
Val Glu Thr Ile Ile Ala Lys Cys Ile Asp His Tyr Thr Lys Gln Cys
                100                 105                    110
Val Glu Asn Ala Asp Leu Pro Glu Gly Glu Lys Lys Pro Ile Asp Gln
             115                 120                    125
Arg Leu Glu Gly Ile Val Asn Lys Met Phe Gln Arg Cys Leu Asp Asp
    130                 135                    140
His Lys Tyr Lys Gln Ala Ile Gly Ile Ala Leu Glu Thr Arg Arg Leu
145                 150                    155                    160
Asp Val Phe Glu Lys Thr Ile Leu Glu Ser Asn Asp Val Pro Gly Met
                165                 170                    175
Leu Ala Tyr Ser Leu Lys Leu Cys Met Ser Leu Met Gln Asn Lys Gln
                180                 185                    190
Phe Arg Asn Lys Val Leu Arg Val Leu Val Lys Ile Tyr Met Asn Leu
             195                 200                    205
Glu Lys Pro Asp Phe Ile Asn Val Cys Gln Cys Leu Ile Phe Leu Asp
    210                 215                    220
Asp Pro Gln Ala Val Ser Asp Ile Leu Glu Lys Leu Val Lys Glu Asp
```

```
225                     230                     235                     240
Asn Leu Leu Met Ala Tyr Gln Ile Cys Phe Asp Leu Tyr Glu Ser Ala
                245                     250                     255
Ser Gln Gln Phe Leu Ser Ser Val Ile Gln Asn Leu Arg Thr Val Gly
                260                     265                     270
Thr Pro Ile Ala Ser Val Pro Gly Ser Thr Asn Thr Gly Thr Val Pro
                275                     280                     285
Gly Ser Glu Lys Asp Ser Asp Ser Met Glu Thr Glu Glu Lys Thr Ser
            290                     295                     300
Ser Ala Phe Val Gly Lys Thr Pro Glu Ala Ser Pro Glu Pro Lys Asp
305                     310                     315                     320
Gln Thr Leu Lys Met Ile Lys Ile Leu Ser Gly Glu Met Ala Ile Glu
                325                     330                     335
Leu His Leu Gln Phe Leu Ile Arg Asn Asn Asn Thr Asp Leu Met Ile
                340                     345                     350
Leu Lys Asn Thr Lys Asp Ala Val Arg Asn Ser Val Cys His Thr Ala
                355                     360                     365
Thr Val Ile Ala Asn Ser Phe Met His Cys Gly Thr Thr Ser Asp Gln
            370                     375                     380
Phe Leu Arg Asp Asn Leu Glu Trp Leu Ala Arg Ala Thr Asn Trp Ala
385                     390                     395                     400
Lys Phe Thr Ala Thr Ala Ser Leu Gly Val Ile His Lys Gly His Glu
                405                     410                     415
Lys Glu Ala Leu Gln Leu Met Ala Thr Tyr Leu Pro Lys Asp Thr Ser
                420                     425                     430
Pro Gly Ser Ala Tyr Gln Glu Gly Gly Gly Leu Tyr Ala Leu Gly Leu
            435                     440                     445
Ile His Ala Asn His Gly Gly Asp Ile Ile Asp Tyr Leu Leu Asn Gln
            450                     455                     460
Leu Lys Asn Ala Ser Asn Asp Ile Val Arg His Gly Gly Ser Leu Gly
465                     470                     475                     480
Leu Gly Leu Ala Ala Met Gly Thr Ala Arg Gln Asp Val Tyr Asp Leu
                485                     490                     495
Leu Lys Thr Asn Leu Tyr Gln Asp Asp Ala Val Thr Gly Glu Ala Ala
            500                     505                     510
Gly Leu Ala Leu Gly Leu Val Met Leu Gly Ser Lys Asn Ala Gln Ala
            515                     520                     525
Ile Glu Asp Met Val Gly Tyr Ala Gln Glu Thr Gln His Glu Lys Ile
            530                     535                     540
Leu Arg Gly Leu Ala Val Gly Ile Ala Leu Val Met Tyr Gly Arg Met
545                     550                     555                     560
Glu Glu Ala Asp Ala Leu Ile Glu Ser Leu Cys Arg Asp Lys Asp Pro
                565                     570                     575
Ile Leu Arg Arg Ser Gly Met Tyr Thr Val Ala Met Ala Tyr Cys Gly
                580                     585                     590
Ser Gly Asn Asn Lys Ala Ile Arg Arg Leu Leu His Val Ala Val Ser
            595                     600                     605
Asp Val Asn Asp Asp Val Arg Ser Ala Ala Val Glu Ser Leu Gly Phe
        610                     615                     620
Ile Leu Phe Arg Thr Pro Glu Gln Cys Pro Ser Val Val Ser Leu Leu
625                     630                     635                     640
Ser Glu Ser Tyr Asn Pro His Val Arg Tyr Gly Ala Ala Met Ala Leu
                645                     650                     655
Gly Ile Cys Cys Ala Gly Thr Gly Asn Lys Glu Ala Ile Asn Leu Leu
            660                     665                     670
```

```
Glu Pro Met Thr Asn Asp Pro Val Asn Tyr Val Arg Gln Gly Ala Leu
        675                 680                 685
Ile Ala Ser Ala Leu Ile Met Ile Gln Gln Thr Glu Ile Thr Cys Pro
        690                 695                 700
Lys Val Asn Gln Phe Arg Gln Leu Tyr Ser Lys Val Ile Asn Asp Lys
705                 710                 715                 720
His Asp Asp Val Met Ala Lys Phe Gly Ala Ile Leu Ala Gln Gly Ile
                725                 730                 735
Leu Asp Ala Gly Gly His Asn Val Thr Ile Ser Leu Gln Ser Arg Thr
        740                 745                 750
Gly His Thr His Met Pro Ser Val Val Gly Val Leu Val Phe Thr Gln
        755                 760                 765
Phe Trp Phe Trp Phe Pro Leu Ser His Phe Leu Ser Leu Ala Tyr Thr
770                 775                 780
Pro Thr Cys Val Ile Gly Leu Asn Lys Asp Leu Lys Met Pro Lys Val
785                 790                 795                 800
Gln Tyr Lys Ser Asn Cys Lys Pro Ser Thr Phe Ala Tyr Pro Ala Pro
                805                 810                 815
Leu Glu Val Pro Lys Glu Lys Glu Lys Glu Lys Val Ser Thr Ala Val
        820                 825                 830
Leu Ser Ile Thr Ala Lys Ala Lys Lys Lys Glu Lys Glu Lys Glu Lys
        835                 840                 845
Lys Glu Glu Glu Lys Met Glu Val Asp Glu Ala Glu Lys Lys Glu Glu
        850                 855                 860
Lys Glu Lys Lys Lys Glu Pro Glu Pro Asn Phe Gln Leu Leu Asp Asn
865                 870                 875                 880
Pro Ala Arg Val Met Pro Ala Gln Leu Lys Val Leu Thr Met Pro Glu
                885                 890             ,   895
Thr Cys Arg Tyr Gln Pro Phe Lys Pro Leu Ser Ile Gly Gly Ile Ile
                900                 905                 910
Ile Leu Lys Asp Thr Ser Glu Asp Ile Glu Glu Leu Val Glu Pro Val
        915                 920                 925
Ala Ala His Gly Pro Lys Ile Glu Glu Glu Glu Gln Glu Pro Glu Pro
        930                 935                 940
Pro Glu Pro Phe Glu Tyr Ile Asp Asp
945                 950
```

```
        <210> 77
        <211> 335
        <212> PRT
        <213> Homo Sapiens


        <400> 77
Met Gly Lys Val Lys Val Gly Val Asn Gly Phe Gly Arg Ile Gly Arg
1                 5                 10                  15
Leu Val Thr Arg Ala Ala Phe Asn Ser Gly Lys Val Asp Ile Val Ala
        20                  25                  30
Ile Asn Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln
        35                  40                  45
Tyr Asp Ser Thr His Gly Lys Phe His Gly Thr Val Lys Ala Glu Asn
        50                  55                  60
Gly Lys Leu Val Ile Asn Gly Asn Pro Ile Thr Ile Phe Gln Glu Arg
65                  70                  75                  80
Asp Pro Ser Lys Ile Lys Trp Gly Asp Ala Gly Ala Glu Tyr Val Val
                85                  90                  95
```

```
Glu Ser Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu
            100               105             110
Gln Gly Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala
            115               120             125
Pro Met Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu
            130               135             140
Lys Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu
145             150               155             160
Ala Lys Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr
            165               170             175
Thr Val His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser
            180               185             190
Gly Lys Leu Trp Arg Asp Gly Arg Gly Ala Leu Gln Asn Ile Ile Pro
            195               200             205
Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu
210             215               220
Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Ala Asn Val
225             230               235             240
Ser Val Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp
            245               250             255
Asp Ile Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly
            260               265             270
Ile Leu Gly Tyr Thr Glu His Gln Val Val Ser Ser Asp Phe Asn Ser
            275               280             285
Asp Thr His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn
290               295               300
Asp His Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Phe Gly Tyr
305               310               315             320
Ser Asn Arg Val Val Asp Leu Met Ala His Met Ala Ser Lys Glu
            325               330             335
```

```
        <210> 78
        <211> 117
        <212> PRT
        <213> Homo Sapiens

        <400> 78
Met Val Gln Arg Leu Thr Tyr Arg Arg Leu Ser Tyr Asn Thr Ala
1               5               10              15
Ser Asn Lys Thr Arg Leu Ser Arg Thr Pro Gly Asn Arg Ile Val Tyr
            20              25              30
Leu Tyr Thr Lys Lys Val Gly Lys Ala Pro Lys Ser Ala Cys Gly Val
            35              40              45
Cys Pro Gly Lys Leu Arg Gly Val Arg Pro Val Arg Pro Lys Val Leu
    50              55              60
Met Arg Leu Ser Lys Thr Lys Lys His Val Ser Arg Ala Tyr Gly Gly
65              70              75              80
Ser Met Cys Ala Lys Cys Val Arg Asp Arg Ile Lys Arg Ala Phe Leu
            85              90              95
Ile Glu Glu Gln Lys Ile Ile Val Lys Val Leu Lys Ala Gln Ala Gln
            100             105             110
Ser Gln Lys Ala Lys
            115

        <210> 79
```

```
     <211> 614
     <212> PRT
     <213> Homo Sapiens

     <400> 79
Arg Ser Gly Gln Pro Arg Ala Glu Gly Leu Gly Ala Gly Ala Ala Gly
1               5                   10                  15
Pro Leu Arg Ala Met Ala Ala Pro Val Lys Gly Asn Arg Lys Gln Ser
            20                  25                  30
Thr Glu Gly Asp Ala Leu Asp Pro Pro Ala Ser Pro Lys Pro Ala Gly
        35                  40                  45
Lys Gln Asn Gly Ile Gln Asn Pro Ile Ser Leu Glu Asp Ser Pro Glu
    50                  55                  60
Ala Gly Gly Glu Arg Glu Glu Gln Glu Arg Glu Glu Glu Gln Ala
65                  70                  75                  80
Phe Leu Val Ser Leu Tyr Lys Phe Met Lys Glu Arg His Thr Pro Ile
                85                  90                  95
Glu Arg Val Pro His Leu Gly Phe Lys Gln Ile Asn Leu Trp Lys Ile
            100                 105                 110
Tyr Lys Ala Val Glu Lys Leu Gly Ala Tyr Glu Leu Val Thr Gly Arg
    115                 120                 125
Arg Leu Trp Lys Asn Val Tyr Asp Glu Leu Gly Gly Ser Pro Gly Ser
    130                 135                 140
Thr Ser Ala Ala Thr Cys Thr Arg Arg His Tyr Glu Arg Leu Val Leu
145                 150                 155                 160
Pro Tyr Val Arg His Leu Lys Gly Glu Asp Asp Lys Pro Leu Pro Thr
                165                 170                 175
Ser Lys Pro Arg Lys Gln Tyr Lys Met Ala Lys Glu Asn Arg Gly Asp
            180                 185                 190
Asp Gly Ala Thr Glu Arg Pro Lys Lys Ala Lys Glu Glu Arg Arg Met
        195                 200                 205
Asp Gln Met Met Pro Gly Lys Thr Lys Ala Asp Ala Ala Asp Pro Ala
210                 215                 220
Pro Leu Pro Ser Gln Glu Pro Pro Arg Asn Ser Thr Glu Gln Gln Gly
225                 230                 235                 240
Leu Ala Ser Gly Ser Ser Val Ser Phe Val Gly Ala Ser Gly Cys Pro
                245                 250                 255
Glu Ala Tyr Lys Arg Leu Leu Ser Ser Phe Tyr Cys Lys Gly Thr His
            260                 265                 270
Gly Ile Met Ser Pro Leu Ala Lys Lys Lys Leu Leu Ala Gln Val Ser
        275                 280                 285
Lys Val Glu Ala Leu Gln Cys Gln Glu Glu Gly Cys Arg His Gly Ala
    290                 295                 300
Glu Pro Gln Ala Ser Pro Ala Val His Leu Pro Glu Ser Pro Gln Ser
305                 310                 315                 320
Pro Lys Gly Leu Thr Glu Asn Ser Arg His Arg Leu Thr Pro Gln Glu
                325                 330                 335
Gly Leu Gln Ala Pro Gly Gly Ser Leu Arg Glu Glu Ala Gln Ala Gly
            340                 345                 350
Pro Cys Pro Ala Ala Pro Ile Phe Lys Gly Cys Phe Tyr Thr His Pro
        355                 360                 365
Thr Glu Val Leu Lys Pro Val Ser Gln His Pro Arg Asp Phe Phe Ser
    370                 375                 380
Arg Leu Lys Asp Gly Val Leu Leu Gly Pro Pro Gly Lys Glu Gly Leu
385                 390                 395                 400
```

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```
Ser Val Lys Glu Pro Gln Leu Val Trp Gly Gly Asp Ala Asn Arg Pro
            405                 410                 415
Ser Ala Phe His Lys Gly Gly Ser Arg Lys Gly Ile Leu Tyr Pro Lys
            420                 425                 430
Pro Lys Ala Cys Trp Val Ser Pro Met Ala Lys Val Pro Ala Glu Ser
            435                 440                 445
Pro Thr Leu Pro Pro Thr Phe Pro Ser Ser Pro Gly Leu Gly Ser Lys
    450                 455                 460
Arg Ser Leu Glu Glu Glu Gly Ala Ala His Ser Gly Lys Arg Leu Arg
465                 470                 475                 480
Ala Val Ser Pro Phe Leu Lys Glu Ala Asp Ala Lys Lys Cys Gly Ala
            485                 490                 495
Lys Pro Ala Gly Ser Gly Leu Val Ser Cys Leu Leu Gly Pro Ala Leu
            500                 505                 510
Gly Pro Val Pro Pro Glu Ala Tyr Arg Gly Thr Met Leu His Cys Pro
    515                 520                 525
Leu Asn Phe Thr Gly Thr Pro Gly Pro Leu Lys Gly Gln Ala Ala Leu
    530                 535                 540
Pro Phe Ser Pro Leu Val Ile Pro Ala Phe Pro Ala His Phe Leu Ala
545                 550                 555                 560
Thr Ala Gly Pro Ser Pro Met Ala Ala Gly Leu Met His Phe Pro Pro
            565                 570                 575
Thr Ser Phe Asp Ser Ala Leu Arg His Arg Leu Cys Pro Ala Ser Ser
            580                 585                 590
Ala Trp His Ala Pro Pro Val Thr Thr Tyr Ala Ala Pro His Phe Phe
    595                 600                 605
His Leu Asn Thr Lys Leu
    610
```

```
        <210> 80
        <211> 114
        <212> PRT
        <213> Homo Sapiens

        <400> 80
Met Ala Ser Val Ser Glu Leu Ala Cys Ile Tyr Ser Ala Leu Ile Leu
1               5                   10                  15
His Asp Asp Glu Val Thr Val Thr Glu Asp Lys Ile Asn Ala Leu Ile
            20                  25                  30
Lys Ala Ala Gly Val Asn Val Glu Pro Phe Trp Pro Gly Leu Phe Ala
    35                  40                  45
Lys Ala Leu Ala Asn Val Asn Ile Gly Ser Leu Ile Cys Asn Val Gly
    50                  55                  60
Ala Gly Gly Pro Ala Pro Ala Ala Gly Ala Ala Pro Ala Gly Gly Pro
65                  70                  75                  80
Ala Pro Ser Thr Ala Ala Ala Pro Ala Glu Glu Lys Lys Val Glu Ala
            85                  90                  95
Lys Lys Glu Glu Ser Glu Glu Ser Asp Asp Asp Met Gly Phe Gly Leu
            100                 105                 110
Phe Asp
```

```
        <210> 81
        <211> 596
        <212> PRT
```

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<213> Homo Sapiens

<400> 81

```
Met Arg Arg Ala His Glu Gly Arg Glu Ile Pro Ser Leu Gly Gly Ala
1               5                   10                  15
Arg Arg Arg Glu Val Leu Gln Ala Gly Arg Ser Gln Arg Ala Ala Gly
            20                  25                  30
Arg Arg Arg Arg Arg Gln Glu Leu Glu Leu Gly Val Gly Ser Gly Arg
        35                  40                  45
Pro Gly Gly Pro Pro Pro Gly Pro Gly Arg Arg Gly Thr Cys Ala Ala
    50                  55                  60
Ala Leu Pro Pro Glu Trp Pro Arg Arg Arg Thr Gly Leu Pro Arg Arg
65                  70                  75                  80
Gly Pro Arg Pro Pro Leu Ala Met Ala Lys Trp Leu Asn Lys Tyr Phe
                85                  90                  95
Ser Leu Gly Asn Ser Lys Thr Lys Ser Pro Pro Gln Pro Pro Arg Pro
            100                 105                 110
Asp Tyr Arg Glu Gln Arg Arg Arg Gly Glu Arg Pro Ser Gln Pro Pro
        115                 120                 125
Gln Ala Val Pro Gln Ala Ser Ser Ala Ala Ser Ala Ser Cys Gly Pro
    130                 135                 140
Ala Thr Ala Ser Cys Phe Ser Ala Ser Ser Gly Ser Leu Pro Asp Asp
145                 150                 155                 160
Ser Gly Ser Thr Ser Asp Leu Ile Arg Ala Tyr Arg Ala Gln Lys Glu
                165                 170                 175
Arg His Phe Gln Asp Pro Tyr Asn Gly Pro Gly Ser Ser Leu Arg Lys
            180                 185                 190
Leu Arg Ala Met Cys Arg Leu Asp Tyr Cys Gly Gly Ser Gly Glu Pro
        195                 200                 205
Gly Gly Val Gln Arg Ala Phe Ser Ala Ser Ser Ala Ser Gly Ala Ala
    210                 215                 220
Gly Cys Cys Cys Ala Ser Ser Gly Ala Gly Ala Ala Ala Ser Ser Ser
225                 230                 235                 240
Ser Ser Ser Gly Ser Pro His Leu Tyr Arg Ser Ser Ser Glu Arg Arg
                245                 250                 255
Pro Ala Thr Pro Ala Glu Val Arg Tyr Ile Ser Pro Lys His Arg Leu
            260                 265                 270
Ile Lys Val Glu Ser Ala Ala Gly Gly Gly Ala Gly Asp Pro Leu Gly
        275                 280                 285
Gly Ala Cys Ala Gly Gly Arg Thr Trp Ser Pro Thr Ala Cys Gly Gly
    290                 295                 300
Lys Lys Leu Leu Asn Lys Cys Ala Ala Ser Ala Ala Glu Glu Ser Gly
305                 310                 315                 320
Ala Gly Lys Lys Asp Lys Val Thr Ile Ala Asp Asp Tyr Ser Asp Pro
                325                 330                 335
Phe Asp Ala Lys Asn Asp Leu Lys Ser Lys Ala Gly Lys Gly Glu Ser
            340                 345                 350
Ala Gly Tyr Met Glu Pro Tyr Glu Ala Gln Arg Ile Met Thr Glu Phe
        355                 360                 365
Gln Arg Gln Glu Ser Val Arg Ser Gln His Lys Gly Ile Gln Leu Tyr
    370                 375                 380
Asp Thr Pro Tyr Glu Pro Glu Gly Gln Ser Val Asp Ser Asp Ser Glu
385                 390                 395                 400
Ser Thr Val Ser Pro Arg Leu Arg Glu Ser Lys Leu Pro Gln Asp Asp
                405                 410                 415
```

```
Asp Arg Pro Ala Asp Glu Tyr Asp Gln Pro Trp Glu Trp Asn Arg Val
            420             425             430
Thr Ser Pro Ala Leu Ala Ala Gln Phe Asn Gly Asn Glu Lys Arg Gln
            435             440             445
Ser Ser Pro Ser Pro Ser Arg Asp Arg Arg Arg Gln Leu Arg Ala Pro
    450             455             460
Gly Gly Gly Phe Lys Pro Ile Lys His Gly Ser Pro Glu Phe Cys Gly
465             470             475             480
Ile Leu Gly Glu Arg Val Asp Pro Ala Val Pro Leu Glu Lys Gln Ile
            485             490             495
Trp Tyr His Gly Ala Ile Ser Arg Gly Asp Ala Glu Asn Leu Leu Arg
            500             505             510
Leu Cys Lys Glu Cys Ser Tyr Leu Val Arg Asn Ser Gln Thr Ser Lys
    515             520             525
His Asp Tyr Pro Leu Ser Leu Arg Ser Asn Gln Gly Phe Met His Met
    530             535             540
Lys Leu Ala Lys Thr Lys Glu Lys Tyr Val Leu Gly Gln Asn Ser Pro
545             550             555             560
Pro Phe Asp Ser Val Pro Glu Val Ile His Tyr Tyr Thr Thr Arg Lys
            565             570             575
Leu Pro Ile Lys Gly Ala Glu His Leu Ser Leu Leu Tyr Pro Val Ala
            580             585             590
Val Arg Thr Leu
            595
```

```
        <210> 82
        <211> 207
        <212> PRT
        <213> Homo Sapiens

        <400> 82
Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
1               5               10              15
Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln
            20              25              30
Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln
    35              40              45
Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
    50              55              60
Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
65              70              75              80
Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
            85              90              95
Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
            100             105             110
Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
    115             120             125
Lys Asp Ser Ala Val Lys Pro Asp Arg Ala Ala Thr Pro His His Arg
    130             135             140
Pro Gln Pro Arg Ser Val Pro Gly Trp Asp Ser Ala Pro Gly Ala Pro
145             150             155             160
Ser Pro Ala Asp Ile Thr His Pro Thr Pro Ala Pro Gly Pro Ser Ala
            165             170             175
His Ala Ala Pro Ser Thr Thr Ser Ala Leu Thr Pro Gly Pro Ala Ala
            180             185             190
```

```
Ala Ala Ala Asp Ala Ala Ala Ser Ser Val Ala Lys Gly Gly Ala
        195             200             205

    <210> 83
    <211> 429
    <212> PRT
    <213> Homo Sapiens

    <400> 83
Glu Cys Asp Val Met Thr Tyr Val Arg Glu Thr Cys Gly Cys Cys Asp
 1           5               10              15
Cys Glu Lys Arg Cys Gly Ala Leu Asp Val Val Phe Val Ile Asp Ser
        20              25              30
Ser Glu Ser Ile Gly Tyr Thr Asn Phe Thr Leu Glu Lys Asn Phe Val
        35              40              45
Ile Asn Val Val Asn Arg Leu Gly Ala Ile Ala Lys Asp Pro Lys Ser
    50              55              60
Glu Thr Gly Thr Arg Val Gly Val Val Gln Tyr Ser His Glu Gly Thr
65              70              75              80
Phe Glu Ala Ile Gln Leu Asp Asp Glu His Ile Asp Ser Leu Ser Ser
            85              90              95
Phe Lys Glu Ala Val Lys Asn Leu Glu Trp Ile Ala Gly Gly Thr Trp
        100             105             110
Thr Pro Ser Ala Leu Lys Phe Ala Tyr Asp Arg Leu Ile Lys Glu Ser
        115             120             125
Arg Arg Gln Lys Thr Arg Val Phe Ala Val Val Ile Thr Asp Gly Arg
    130             135             140
His Asp Pro Arg Asp Asp Asp Leu Asn Leu Arg Ala Leu Cys Asp Arg
145             150             155             160
Asp Val Thr Val Thr Ala Ile Gly Ile Gly Asp Met Phe His Glu Lys
            165             170             175
His Glu Ser Glu Asn Leu Tyr Ser Ile Ala Cys Asp Lys Pro Gln Gln
        180             185             190
Val Arg Asn Met Thr Leu Phe Ser Asp Leu Val Ala Glu Lys Phe Ile
        195             200             205
Asp Asp Met Glu Asp Val Leu Cys Pro Asp Pro Gln Ile Val Cys Pro
    210             215             220
Asp Leu Pro Cys Gln Thr Glu Leu Ser Val Ala Gln Cys Thr Gln Arg
225             230             235             240
Pro Val Asp Ile Val Phe Leu Leu Asp Gly Ser Glu Arg Leu Gly Glu
            245             250             255
Gln Asn Phe His Lys Ala Arg Arg Phe Val Glu Gln Val Ala Arg Arg
        260             265             270
Leu Thr Leu Ala Arg Arg Asp Asp Asp Pro Leu Asn Ala Arg Val Ala
        275             280             285
Leu Leu Gln Phe Gly Gly Pro Gly Glu Gln Gln Val Ala Phe Pro Leu
    290             295             300
Ser His Asn Leu Thr Ala Ile His Glu Ala Leu Glu Thr Thr Gln Tyr
305             310             315             320
Leu Asn Ser Phe Ser His Val Gly Ala Gly Val Val His Ala Ile Asn
            325             330             335
Ala Ile Val Arg Ser Pro Arg Gly Gly Ala Arg Arg His Ala Glu Leu
        340             345             350
Ser Phe Val Phe Leu Thr Asp Gly Val Thr Gly Asn Asp Ser Leu His
        355             360             365
```

```
Glu Ser Ala His Ser Met Arg Asn Glu Asn Val Val Pro Thr Val Leu
    370                 375             380
Ala Leu Gly Ser Asp Val Asp Met Asp Val Leu Thr Thr Leu Ser Leu
385                 390             395                     400
Gly Asp Arg Ala Ala Val Phe His Glu Lys Asp Tyr Asp Ser Leu Ala
                405             410             415
Gln Pro Gly Phe Phe Asp Arg Phe Ile Arg Trp Ile Cys
                420             425
```

```
    <210> 84
    <211> 113
    <212> PRT
    <213> Homo Sapiens

    <400> 84
Met Ser Ala Ser Val Val Ser Val Ile Ser Arg Phe Leu Glu Glu Tyr
1               5               10              15
Leu Ser Ser Thr Pro Gln Arg Leu Lys Leu Leu Asp Ala Tyr Leu Leu
                20              25              30
Tyr Ile Leu Leu Thr Gly Ala Leu Gln Phe Gly Tyr Cys Leu Leu Val
        35              40              45
Gly Thr Phe Pro Phe Asn Ser Phe Leu Ser Gly Phe Ile Ser Cys Val
        50              55              60
Gly Ser Phe Ile Leu Ala Val Cys Leu Arg Ile Gln Ile Asn Pro Gln
65              70              75              80
Asn Lys Ala Asp Phe Gln Gly Ile Ser Pro Glu Arg Ala Phe Ala Asp
                85              90              95
Phe Leu Phe Ala Ser Thr Ile Leu His Leu Val Val Met Asn Phe Val
                100             105             110
Gly
```

```
    <210> 85
    <211> 258
    <212> PRT
    <213> Homo Sapiens

    <400> 85
Met Ile Asn Ile Glu Ser Met Asp Thr Asp Lys Asp Asp Pro His Gly
1               5               10              15
Arg Leu Glu Tyr Thr Glu His Gln Gly Arg Ile Lys Asn Ala Arg Glu
                20              25              30
Ala His Ser Gln Ile Glu Lys Arg Arg Arg Asp Lys Met Asn Ser Phe
        35              40              45
Ile Asp Glu Leu Ala Ser Leu Val Pro Thr Cys Asn Ala Met Ser Arg
        50              55              60
Lys Leu Asp Lys Leu Thr Val Leu Arg Met Ala Val Gln His Met Lys
65              70              75              80
Thr Leu Arg Gly Ala Thr Asn Pro Tyr Thr Glu Ala Asn Tyr Lys Pro
                85              90              95
Thr Phe Leu Ser Asp Asp Glu Leu Lys His Leu Ile Leu Arg Ala Ala
                100             105             110
Asp Gly Phe Leu Phe Val Val Gly Cys Asp Arg Gly Lys Ile Leu Phe
                115             120             125
Val Ser Glu Ser Val Phe Lys Ile Leu Asn Tyr Ser Gln Asn Asp Leu
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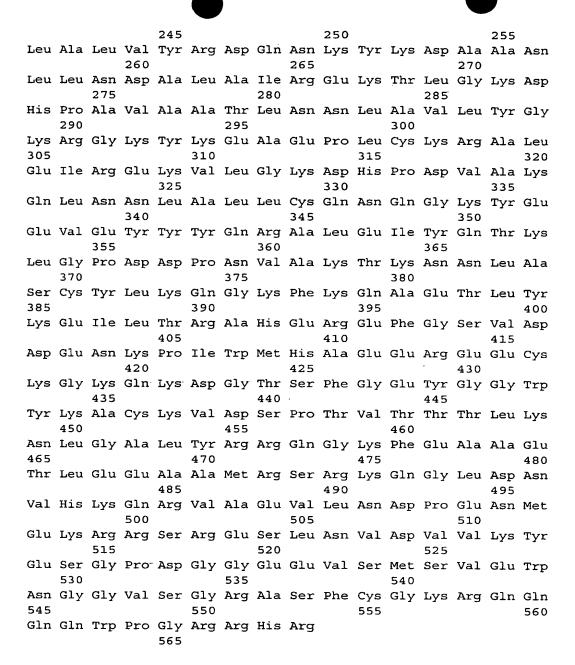
```
            130                    135                    140
Ile Gly Gln Ser Leu Phe Asp Tyr Leu His Pro Lys Asp Ile Ala Lys
145                    150                    155                    160
Val Lys Glu Gln Leu Ser Ser Ser Asp Thr Ala Pro Arg Glu Arg Leu
                165                    170                    175
Ile Asp Ala Lys Thr Gly Leu Pro Val Lys Thr Asp Ile Thr Pro Gly
                180                    185                    190
Pro Ser Arg Leu Cys Ser Gly Ala Arg Arg Ser Phe Phe Cys Arg Met
            195                    200                    205
Lys Cys Asn Arg Pro Ser Val Asn Val Glu Asp Lys Asn Phe Pro Ser
    210                    215                    220
Thr Cys Ser Lys Lys Lys Ala Asp Arg Lys Ala Phe Cys Thr Ile His
225                    230                    235                    240
Ser Thr Gly Tyr Phe Gly Ile Phe Thr Thr Arg Thr Ser Arg His Ile
                245                    250                    255
Val Leu
```

```
        <210> 86
        <211> 569
        <212> PRT
        <213> Homo Sapiens

        <400> 86
Met Ser Thr Met Val Tyr Ile Lys Glu Asp Lys Leu Glu Lys Leu Thr
1                   5                    10                    15
Gln Asp Glu Ile Ile Ser Lys Thr Lys Gln Val Ile Gln Gly Leu Glu
                20                    25                    30
Ala Leu Lys Asn Glu His Asn Ser Ile Leu Gln Ser Leu Leu Glu Thr
            35                    40                    45
Leu Lys Cys Leu Lys Lys Asp Asp Glu Ser Asn Leu Val Glu Glu Lys
    50                    55                    60
Ser Asn Met Ile Arg Lys Ser Leu Glu Met Leu Glu Leu Gly Leu Ser
65                    70                    75                    80
Glu Ala Gln Val Met Met Ala Leu Ser Asn His Leu Asn Ala Val Glu
                85                    90                    95
Ser Glu Lys Gln Lys Leu Arg Ala Gln Val Arg Arg Leu Cys Gln Glu
                100                    105                    110
Asn Gln Trp Leu Arg Asp Glu Leu Ala Asn Thr Gln Gln Lys Leu Gln
            115                    120                    125
Lys Ser Glu Gln Ser Val Ala Gln Leu Glu Glu Glu Lys Lys His Leu
    130                    135                    140
Glu Phe Met Asn Gln Leu Lys Lys Tyr Asp Asp Asp Ile Ser Pro Ser
145                    150                    155                    160
Glu Asp Lys Asp Thr Asp Ser Thr Lys Glu Pro Leu Asp Asp Leu Phe
                165                    170                    175
Pro Asn Asp Glu Asp Asp Pro Gly Gln Gly Ile Gln Gln Gln His Ser
                180                    185                    190
Ser Ala Ala Ala Ala Ala Gln Gln Gly Gly Tyr Glu Ile Pro Ala Arg
            195                    200                    205
Leu Arg Thr Leu His Asn Leu Val Ile Gln Tyr Ala Ser Gln Gly Arg
    210                    215                    220
Tyr Glu Val Ala Val Pro Leu Cys Lys Gln Ala Leu Glu Asp Leu Glu
225                    230                    235                    240
Lys Thr Ser Gly His Asp His Pro Asp Val Ala Thr Met Leu Asn Ile
```

```
                245                    250                    255
Leu Ala Leu Val Tyr Arg Asp Gln Asn Lys Tyr Lys Asp Ala Ala Asn
            260                    265                    270
Leu Leu Asn Asp Ala Leu Ala Ile Arg Glu Lys Thr Leu Gly Lys Asp
        275                    280                    285
His Pro Ala Val Ala Ala Thr Leu Asn Asn Leu Ala Val Leu Tyr Gly
    290                    295                    300
Lys Arg Gly Lys Tyr Lys Glu Ala Glu Pro Leu Cys Lys Arg Ala Leu
305                    310                    315                    320
Glu Ile Arg Glu Lys Val Leu Gly Lys Asp His Pro Asp Val Ala Lys
                325                    330                    335
Gln Leu Asn Asn Leu Ala Leu Leu Cys Gln Asn Gln Gly Lys Tyr Glu
            340                    345                    350
Glu Val Glu Tyr Tyr Tyr Gln Arg Ala Leu Glu Ile Tyr Gln Thr Lys
        355                    360                    365
Leu Gly Pro Asp Asp Pro Asn Val Ala Lys Thr Lys Asn Asn Leu Ala
    370                    375                    380
Ser Cys Tyr Leu Lys Gln Gly Lys Phe Lys Gln Ala Glu Thr Leu Tyr
385                    390                    395                    400
Lys Glu Ile Leu Thr Arg Ala His Glu Arg Glu Phe Gly Ser Val Asp
                405                    410                    415
Asp Glu Asn Lys Pro Ile Trp Met His Ala Glu Glu Arg Glu Glu Cys
            420                    425                    430
Lys Gly Lys Gln Lys Asp Gly Thr Ser Phe Gly Glu Tyr Gly Gly Trp
        435                    440                    445
Tyr Lys Ala Cys Lys Val Asp Ser Pro Thr Val Thr Thr Thr Leu Lys
    450                    455                    460
Asn Leu Gly Ala Leu Tyr Arg Arg Gln Gly Lys Phe Glu Ala Ala Glu
465                    470                    475                    480
Thr Leu Glu Glu Ala Ala Met Arg Ser Arg Lys Gln Gly Leu Asp Asn
                485                    490                    495
Val His Lys Gln Arg Val Ala Glu Val Leu Asn Asp Pro Glu Asn Met
            500                    505                    510
Glu Lys Arg Arg Ser Arg Glu Ser Leu Asn Val Asp Val Val Lys Tyr
        515                    520                    525
Glu Ser Gly Pro Asp Gly Gly Glu Glu Val Ser Met Ser Val Glu Trp
    530                    535                    540
Asn Gly Gly Val Ser Gly Arg Ala Ser Phe Cys Gly Lys Arg Gln Gln
545                    550                    555                    560
Gln Gln Trp Pro Gly Arg Arg His Arg
            565
```

```
    <210> 87
    <211> 736
    <212> PRT
    <213> Homo Sapiens

    <400> 87
Met Glu Ala Leu Ile Pro Val Ile Asn Lys Leu Gln Asp Val Phe Asn
1               5                    10                    15
Thr Val Gly Ala Asp Ile Ile Gln Leu Pro Gln Ile Val Val Val Gly
            20                    25                    30
Thr Gln Ser Ser Gly Lys Ser Ser Val Leu Glu Ser Leu Val Gly Arg
        35                    40                    45
Asp Leu Leu Pro Arg Gly Thr Gly Ile Val Thr Arg Arg Pro Leu Ile
```

```
            50                  55                  60
Leu Gln Leu Val His Val Thr Gln Glu Asp Lys Arg Lys Thr Thr Gly
65                  70                  75                  80
Glu Glu Asn Gly Val Glu Ala Glu Glu Trp Gly Lys Phe Leu His Thr
                85                  90                  95
Lys Asn Lys Leu Tyr Thr Asp Phe Asp Glu Ile Arg Gln Glu Ile Glu
            100                 105                 110
Asn Glu Thr Glu Arg Ile Ser Gly Asn Asn Lys Gly Val Ser Pro Glu
            115                 120                 125
Pro Ile His Leu Lys Ile Phe Ser Pro Asn Val Val Asn Leu Thr Leu
        130                 135                 140
Val Asp Leu Pro Gly Met Thr Lys Val Pro Val Gly Asp Gln Pro Lys
145                 150                 155                 160
Asp Ile Glu Leu Gln Ile Arg Glu Leu Ile Leu Arg Phe Ile Ser Asn
                165                 170                 175
Pro Asn Ser Ile Ile Leu Ala Val Thr Ala Ala Asn Thr Asp Met Ala
            180                 185                 190
Thr Ser Glu Ala Leu Lys Ile Ser Arg Glu Val Asp Pro Asp Gly Arg
        195                 200                 205
Arg Thr Leu Ala Val Ile Thr Lys Leu Asp Leu Met Asp Ala Gly Thr
    210                 215                 220
Asp Ala Met Asp Val Leu Met Gly Arg Val Ile Pro Val Lys Leu Gly
225                 230                 235                 240
Ile Ile Gly Val Val Asn Arg Ser Gln Leu Asp Ile Asn Asn Lys Lys
                245                 250                 255
Ser Val Thr Asp Ser Ile Arg Asp Glu Tyr Ala Phe Leu Gln Lys Lys
                260                 265                 270
Tyr Pro Ser Leu Ala Asn Arg Asn Gly Thr Lys Tyr Leu Ala Arg Thr
        275                 280                 285
Leu Asn Arg Leu Leu Met His His Ile Arg Asp Cys Leu Pro Glu Leu
    290                 295                 300
Lys Thr Arg Ile Asn Val Leu Ala Ala Gln Tyr Gln Ser Leu Leu Asn
305                 310                 315                 320
Ser Tyr Gly Glu Pro Val Asp Asp Lys Ser Ala Thr Leu Leu Gln Leu
                325                 330                 335
Ile Thr Lys Phe Ala Thr Glu Tyr Cys Asn Thr Ile Glu Gly Thr Ala
            340                 345                 350
Lys Tyr Ile Glu Thr Ser Glu Leu Cys Gly Gly Ala Arg Ile Cys Tyr
        355                 360                 365
Ile Phe His Glu Thr Phe Gly Arg Thr Leu Glu Ser Val Asp Pro Leu
    370                 375                 380
Gly Gly Leu Asn Thr Ile Asp Ile Leu Thr Ala Ile Arg Asn Ala Thr
385                 390                 395                 400
Gly Pro Arg Pro Ala Leu Phe Val Pro Glu Val Ser Phe Glu Leu Leu
            405                 410                 415
Val Lys Arg Gln Ile Lys Arg Leu Glu Glu Pro Ser Leu Arg Cys Val
        420                 425                 430
Glu Leu Val His Glu Glu Met Gln Arg Ile Ile Gln His Cys Ser Asn
        435                 440                 445
Tyr Ser Thr Gln Glu Leu Leu Arg Phe Pro Lys Leu His Asp Ala Ile
    450                 455                 460
Val Glu Val Val Thr Cys Leu Leu Arg Lys Arg Leu Pro Val Thr Asn
465                 470                 475                 480
Glu Met Val His Asn Leu Val Ala Ile Glu Leu Ala Tyr Ile Asn Thr
                485                 490                 495
```

```
Lys His Pro Asp Phe Ala Asp Ala Cys Gly Leu Met Asn Asn Asn Ile
            500             505             510
Glu Glu Gln Arg Arg Asn Arg Leu Ala Arg Glu Leu Pro Ser Ala Val
            515             520             525
Ser Arg Asp Lys Ser Ser Lys Val Pro Ser Ala Leu Ala Pro Ala Ser
        530             535             540
Gln Glu Pro Ser Pro Ala Ala Ser Ala Glu Ala Asp Gly Lys Leu Ile
545             550             555             560
Gln Asp Ser Arg Arg Glu Thr Lys Asn Val Ala Ser Gly Gly Gly Gly
            565             570             575
Val Gly Asp Gly Val Gln Glu Pro Thr Thr Gly Asn Trp Arg Gly Met
            580             585             590
Leu Lys Thr Ser Lys Ala Glu Glu Leu Leu Ala Glu Glu Lys Ser Lys
        595             600             605
Pro Ile Pro Ile Met Pro Ala Ser Pro Gln Lys Gly His Ala Val Asn
610             615             620
Leu Leu Asp Val Pro Val Pro Val Ala Arg Lys Leu Ser Ala Arg Glu
625             630             635             640
Gln Arg Asp Cys Glu Val Ile Glu Arg Leu Ile Lys Ser Tyr Phe Leu
            645             650             655
Ile Val Arg Lys Asn Ile Gln Asp Ser Val Pro Lys Ala Val Met His
            660             665             670
Phe Leu Val Asn His Val Lys Asp Thr Leu Gln Ser Glu Leu Val Gly
        675             680             685
Gln Leu Tyr Lys Ser Ser Leu Leu Asp Asp Leu Leu Thr Glu Ser Glu
        690             695             700
Asp Met Ala Gln Arg Arg Lys Glu Ala Ala Asp Met Leu Lys Ala Leu
705             710             715             720
Gln Gly Ala Ser Gln Ile Ile Ala Glu Ile Arg Glu Thr His Leu Trp
            725             730             735
```

```
<210> 88
<211> 37
<212> PRT
<213> Homo Sapiens

<400> 88
Met Gly Asp His Ala Trp Ser Phe Leu Lys Asp Phe Leu Ala Gly Gly
1               5               10              15
Val Ala Ala Ala Val Ser Lys Thr Ala Val Ala Pro Ile Glu Arg Val
            20              25              30
Lys Leu Leu Leu Gln
        35
```

```
<210> 89
<211> 1381
<212> DNA
<213> Homo Sapiens

<400> 89
ccgcagccct agagccgccc aagggatggc gatggcgtac ttggcttgga gactggcgcg    60
gcgttcgtgt ccgagttctc tgcaggtcnc tantttcccg gtagttcanc tgcncatgaa   120
tanaacagca atgagagccn ctcncaaaga ctttgaaaat tcactgaatc nagtgaaact   180
ctngaaaaag gatccangaa acgaaatgaa nctnaaactc tncgcgctat atnancangc   240
cnctgaanga cttgtntcat gcccnaacca ngtgtntttg acttgatcna caaggggcca   300
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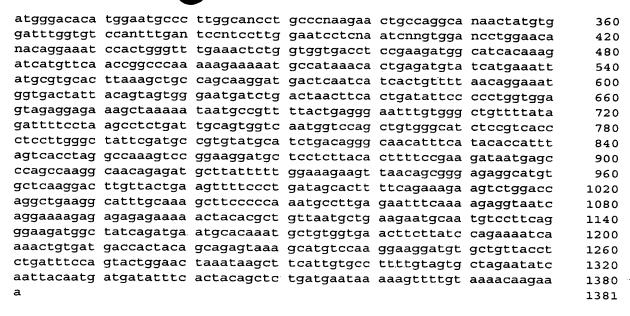
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atgggacaca tggaatgccc ttggcancct gcccnaagaa ctgccaggca naactatgtg   360
gatttggtgt ccantttgan tccntccttg gaatcctcna atcnngtgga ncctggaaca   420
nacaggaaat ccactgggtt tgaaactctg gtggtgacct ccgaagatgg catcacaaag   480
atcatgttca accggcccaa aaagaaaaat gccataaaca ctgagatgta tcatgaaatt   540
atgcgtgcac ttaaagctgc cagcaaggat gactcaatca tcactgtttt aacaggaaat   600
ggtgactatt acagtagtgg gaatgatctg actaacttca ctgatattcc ccctggtgga   660
gtagaggaga aagctaaaaa taatgccgtt ttactgaggg aatttgtggg ctgttttata   720
gattttccta agcctctgat tgcagtggtc aatggtccag ctgtgggcat ctccgtcacc   780
ctccttgggc tattcgatgc cgtgtatgca tctgacaggg caacatttca tacaccattt   840
agtcacctag gccaaagtcc ggaaggatgc tcctcttaca cttttccgaa gataatgagc   900
ccagccaagg caacagagat gcttattttt ggaaagaagt aacagcggg agaggcatgt    960
gctcaaggac ttgttactga agtttttccct gatagcactt ttcagaaaga gtctggacc   1020
aggctgaagg catttgcaaa gcttcccccca aatgccttga gaatttcaaa agaggtaatc   1080
aggaaaagag agagagaaaa actacacgct gttaatgctg aagaatgcaa tgtccttcag   1140
ggaagatggc tatcagatga atgcacaaat gctgtggtga acttcttatc cagaaaatca   1200
aaactgtgat gaccactaca gcagagtaaa gcatgtccaa ggaaggatgt gctgttacct   1260
ctgatttcca gtactggaac taaataagct tcattgtgcc ttttgtagtg ctagaatatc   1320
aattacaatg atgatatttc actacagctc tgatgaataa aaagttttgt aaaacaagaa   1380
a                                                                   1381
```

        <210> 90
        <211> 298
        <212> PRT
        <213> Homo Sapiens

        <400> 90
```
Thr Cys Met Pro Pro Val Phe Asp Leu Ile Lys Gly Pro Met Gly His
1               5                   10                  15
Met Glu Cys Pro Trp Pro Ala Arg Thr Ala Arg Asn Tyr Val Asp Leu
                20                  25                  30
Val Ser Leu Pro Ser Leu Glu Ser Ser Asn Val Pro Gly Thr Arg Lys
            35                  40                  45
Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu Asp Gly Ile Thr
        50                  55                  60
Lys Ile Met Phe Asn Arg Pro Lys Lys Asn Ala Ile Asn Thr Glu
65                  70                  75                  80
Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala Ser Lys Asp Asp
                85                  90                  95
Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr Tyr Ser Ser Gly
                100                 105                 110
Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly Gly Val Glu Glu
            115                 120                 125
Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe Val Gly Cys Phe
            130                 135                 140
Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn Gly Pro Ala Val
145                 150                 155                 160
Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala Val Tyr Ala Ser
                165                 170                 175
Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu Gly Gln Ser Pro
                180                 185                 190
Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met Ser Pro Ala Lys
                195                 200                 205
Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr Ala Gly Glu Ala
            210                 215                 220
Cys Ala Gln Leu Val Thr Glu Val Phe Pro Asp Ser Thr Phe Gln Lys
```

```
225                      230                      235                      240
Glu Val Trp Thr Lys Leu Lys Ala Phe Ala Lys Ala Ser Pro Lys Cys
                245                      250                      255
Leu Glu Asn Phe Lys Arg Gly Asn Gln Gly Lys Glu Arg Glu Lys Asn
                260                      265                      270
Tyr Thr Pro Leu Met Leu Lys Lys Cys Asn Val Pro Ser Arg Lys Gly
                275                      280                      285
Tyr Gln Asp Glu Cys Thr Lys Cys Leu Trp
        290                      295
```

```
        <210> 91
        <211> 1514
        <212> DNA
        <213> Homo Sapiens

        <400> 91
gccgcgcgct gtgtctccgc tgcgtccgcc gaggcccccg agtgtcaggg acaaaagcct    60
ccgcctgctc ccgcagccgg ggctcatctg ccgccgccgc cgcgctgagg agagttcgcc   120
gccgtcgccg cccgtgagga tctgagagcc atgtcggcca gcagcctctt ggagcagaga   180
ccaaaaggtc aaggaaacaa agtacaaaat ggatctgtac atcaaaagga tggattaaac   240
gatgatgatt ttgaacctta cttgagtcca caggcaaggc ccaataatgc atatactgcc   300
atgtcagatt cctacttacc cagttactac agtccctcca ttggcttctc ctattctttg   360
ggtgaagctg cttggtctac ggggggtgac acagccatgc cctacttaac ttcttatgga   420
cagctgagca cggagagcc ccacttccta ccagatgcaa tgtttgggca accaggagcc   480
ctaggtagca ctccatttct tggtcagcat ggttttaatt tctttcccag tgggattgac   540
ttctcagcat ggggaaataa cagttctcag ggacagtcta ctcagagctc tggatatagt   600
agcaattatg cttatgcacc tagctcctta ggtggagcca tgattgatgg acagtcagct   660
tttgccaatg agaccctcaa taaggctcct ggcatgaata ctatagacca agggatggca   720
gcactgaagt tgggtagcac agaagttgca agcaatgttc caaaagttgt aggttctgct   780
gttggtagcg ggtccattac tagtaacatc gtggcttcca atagtttgcc tccagccacc   840
attgctcctc caaaaccagc atcttgggct gatattgcta gcaagcctgc aaaacagcaa   900
cctaaactga agaccaagaa tggcattgca gggtcaagtc ttccgccacc cccgataaag   960
cataacatgg atattggaac ttgggataac aagggtcccg ttgcaaaagc cccctcacag  1020
gctttggttc agaatatagg tcagccaacc caggggtctc ctcagcctgt aggtcagcag  1080
gctaacaata gcccaccagt ggctcaggca tcagtaggc aacagacaca gccattgcct  1140
ccacctccac cacagcctgc ccagctttca gtccagcaac aggcagctca gccaacccgc  1200
tgggtagcac ctcggaaccg tggcagtggg ttcggtcata atggggtgga tggtaatgga  1260
gtaggacagt ctcaggctgg ttctggatct actccttcag aaccccaccc agtgttggag  1320
aagcttcggt ccattaataa ctataacccc aaagattttg actgggaaat ctgaaacatg  1380
ggcgggtttt catcattaaa gaactactct gangacgata ttcaccgttc catttaagtt  1440
ataatatttg gtggancaca anagcaatgg taacaagaga atgggatgcc ngcttatcgt  1500
ttccatgaac gggg                                                    1514
```

```
        <210> 92
        <211> 407
        <212> PRT
        <213> Homo Sapiens

        <400> 92
Met Ser Ala Ser Ser Leu Leu Glu Gln Arg Pro Lys Gly Gln Gly Asn
1               5                   10                  15
Lys Val Gln Asn Gly Ser Val His Gln Lys Asp Gly Leu Asn Asp Asp
            20                  25                  30
Asp Phe Glu Pro Tyr Leu Ser Pro Gln Ala Arg Pro Asn Asn Ala Tyr
        35                  40                  45
```
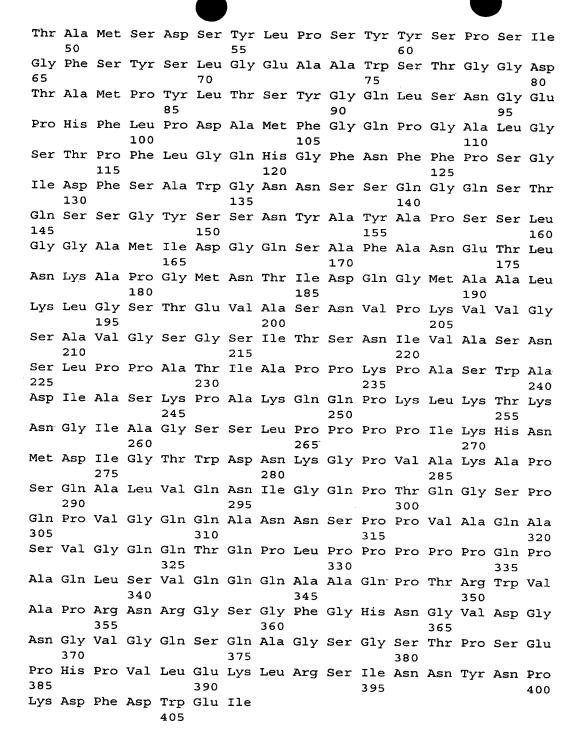
```
Thr Ala Met Ser Asp Ser Tyr Leu Pro Ser Tyr Tyr Ser Pro Ser Ile
 50              55              60
Gly Phe Ser Tyr Ser Leu Gly Glu Ala Ala Trp Ser Thr Gly Gly Asp
 65              70              75              80
Thr Ala Met Pro Tyr Leu Thr Ser Tyr Gly Gln Leu Ser Asn Gly Glu
             85              90              95
Pro His Phe Leu Pro Asp Ala Met Phe Gly Gln Pro Gly Ala Leu Gly
            100             105             110
Ser Thr Pro Phe Leu Gly Gln His Gly Phe Asn Phe Phe Pro Ser Gly
            115             120             125
Ile Asp Phe Ser Ala Trp Gly Asn Asn Ser Ser Gln Gly Gln Ser Thr
    130             135             140
Gln Ser Ser Gly Tyr Ser Ser Asn Tyr Ala Tyr Ala Pro Ser Ser Leu
145             150             155             160
Gly Gly Ala Met Ile Asp Gly Gln Ser Ala Phe Ala Asn Glu Thr Leu
            165             170             175
Asn Lys Ala Pro Gly Met Asn Thr Ile Asp Gln Gly Met Ala Ala Leu
            180             185             190
Lys Leu Gly Ser Thr Glu Val Ala Ser Asn Val Pro Lys Val Val Gly
    195             200             205
Ser Ala Val Gly Ser Gly Ser Ile Thr Ser Asn Ile Val Ala Ser Asn
    210             215             220
Ser Leu Pro Pro Ala Thr Ile Ala Pro Pro Lys Pro Ala Ser Trp Ala
225             230             235             240
Asp Ile Ala Ser Lys Pro Ala Lys Gln Gln Pro Lys Leu Lys Thr Lys
            245             250             255
Asn Gly Ile Ala Gly Ser Ser Leu Pro Pro Pro Pro Ile Lys His Asn
            260             265             270
Met Asp Ile Gly Thr Trp Asp Asn Lys Gly Pro Val Ala Lys Ala Pro
    275             280             285
Ser Gln Ala Leu Val Gln Asn Ile Gly Gln Pro Thr Gln Gly Ser Pro
    290             295             300
Gln Pro Val Gly Gln Gln Ala Asn Asn Ser Pro Pro Val Ala Gln Ala
305             310             315             320
Ser Val Gly Gln Gln Thr Gln Pro Leu Pro Pro Pro Pro Gln Pro
            325             330             335
Ala Gln Leu Ser Val Gln Gln Gln Ala Ala Gln Pro Thr Arg Trp Val
            340             345             350
Ala Pro Arg Asn Arg Gly Ser Gly Phe Gly His Asn Gly Val Asp Gly
    355             360             365
Asn Gly Val Gly Gln Ser Gln Ala Gly Ser Gly Ser Thr Pro Ser Glu
    370             375             380
Pro His Pro Val Leu Glu Lys Leu Arg Ser Ile Asn Asn Tyr Asn Pro
385             390             395             400
Lys Asp Phe Asp Trp Glu Ile
            405
```

```
        <210> 93
        <211> 2236
        <212> DNA
        <213> Homo Sapiens

        <400> 93
cctggcccgg tcgcggtcgc ggctctttcc agctcctggc agccgggcac ccgaaggaac      60
gggtcgtgca acgacgcagc tggacctggc ccagccatgg accgaaaagt ggcccgagaa     120
```

```
ttccggcata aggtggattt tctgattgaa aatgatgcag agaaggacta tctctatgat   180
gtgctgcgaa tgtaccacca gaccatggac gtggccgtgc tcgtgggaga cctgaagctg   240
gtcatcaatg aacccagccg tctgcctctg tttgatgcca ttcggccgct gatcccactg   300
aagcaccagg tggaatatga tcagctgacc ccccggcgct ccaggaagct gaaggaggtg   360
cgtctggacc gtctgcaccc cgaaggcctc ggcctgagtg tgcgtggtgg cctggagttt   420
ggctgtgggc tcttcatctc ccacctcatc aaaggcggtc aggcagacag cgtcgggctc   480
caggtagggg acgagatcgt ccggatcaat ggatattcca tctcctcctg tacccatgag   540
gaggtcatca acctcattcg aaccaagaaa actgtgtcca tcaaagtgag acacatcggc   600
ctgatccccg tgaaaagctc tcctgatgag cccctcactt ggcagtatgt ggatcagttt   660
gtgtcggaat ctggggggcgt gcgaggcagc ctgggctccc ctggaaatcg gaaaacaag   720
gagaagaagg tcttcatcag cctggtaggc tcccgaggcc ttggctgcag catttccagc   780
ggccccatcc agaagcctgg catctttatc agccatgtga acctggctc cctgtctgct   840
gaggtgggat tggagatagg ggaccagatt gtcgaagtca atggcgtcga cttctctaac   900
ctggatcaca aggaggctgt aaatgtgctg aaaaatagcc gcagcctgac catctccatt   960
gtagctgcag ctggccggga gctgttcatg acagaccggg agcggctggc agaggcgcgg  1020
cagcgtgagc tgcagcggca ggagcttctc atgcagaagc ggctggcgat ggagtccaac  1080
aagatcctcc aggagcagca ggagatggag cggcaaagga gaaagaaat tgcccagaag  1140
gcagcagagg aaaatgagag ataccggaag gagatggaac agattgtaga ggaggaagag  1200
aagtttaaga gcaatgggga agaagactgg ggctcaaagg aacagctact cttgcctaaa  1260
accatcactg ctgaggtaca cccagtaccc cttcgcaagc caaagtatga tcaggggagtg  1320
gaacctgagc tcgagcccgc agatgacctg gatggaggca cggaggagca gggagagcag  1380
gatttccgga aatatgagga aggctttgac ccctactcta tgttcacccc agagcagatc  1440
atggggaagg atgtccggct cctacgcatc aagaaggagg gatccttaga cctggccctg  1500
gaaggcggtg tggactcccc cattgggaag gtggtcgttt ctgctgtgta tgagcgggga  1560
gctgctgagc ggcatggtgg cattgtgaaa ggggacgaga tcatggcaat caacggcaag  1620
attgtgacag actacaccct ggctgaggct gacgctgccc tgcagaaggc ctggaatcag  1680
ggcggggact ggatcgacct tgtggttgcc gtctgcccccc caaaggagta tgacgatgag  1740
ctgaccttct tgctgaagtc caaaaggga aaccaaattc acgcgttagg aaacagtgag  1800
ctccggcccc acctcgtgaa cacaaagcct cggaccagcc ttgagagagg ccacatgaca  1860
cacaccagat ggcatccttg ggacctgaat ctatcaccca ggaatctcaa actccctttg  1920
gccctgaacc agggccagat aaggaacagc tcgggccact tttttgaagg ccaatgtgga  1980
ggaaagggag cagccagccg tttgggagaa gatctcaagg atccagactc tcattccttt  2040
cctctggccc agtgaatttg gtctctccca gctttggggg actccttcct tgaaccctaa  2100
taagacccca ctggagtctc tctctctcca tccctctcct ctgccctctg tctaattgc   2160
tgccaggatt gtcactccaa accttactct gagctcatta ataaaataaa cagatttatt  2220
ttccagctta aaaaaa                                                   2236
```

```
<210> 94
<211> 652
<212> PRT
<213> Homo Sapiens

<400> 94
Met Asp Arg Lys Val Ala Arg Glu Phe Arg His Lys Val Asp Phe Leu
1               5                   10                  15
Ile Glu Asn Asp Ala Glu Lys Asp Tyr Leu Tyr Asp Val Leu Arg Met
            20                  25                  30
Tyr His Gln Thr Met Asp Val Ala Val Leu Val Gly Asp Leu Lys Leu
        35                  40                  45
Val Ile Asn Glu Pro Ser Arg Leu Pro Leu Phe Asp Ala Ile Arg Pro
    50                  55                  60
Leu Ile Pro Leu Lys His Gln Val Glu Tyr Asp Gln Leu Thr Pro Arg
65                  70                  75                  80
Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu
                85                  90                  95
```

```
Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu
            100                 105                 110
Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu
            115                 120                 125
Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser
    130                 135                 140
Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val
145                 150                 155                 160
Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro
                165                 170                 175
Asp Glu Pro Leu Thr Trp Gln Tyr Val Asp Gln Phe Val Ser Glu Ser
            180                 185                 190
Gly Gly Val Arg Gly Ser Leu Gly Ser Pro Gly Asn Arg Glu Asn Lys
            195                 200                 205
Glu Lys Lys Val Phe Ile Ser Leu Val Gly Ser Arg Gly Leu Gly Cys
    210                 215                 220
Ser Ile Ser Ser Gly Pro Ile Gln Lys Pro Gly Ile Phe Ile Ser His
225                 230                 235                 240
Val Lys Pro Gly Ser Leu Ser Ala Glu Val Gly Leu Glu Ile Gly Asp
                245                 250                 255
Gln Ile Val Glu Val Asn Gly Val Asp Phe Ser Asn Leu Asp His Lys
            260                 265                 270
Glu Ala Val Asn Val Leu Lys Asn Ser Arg Ser Leu Thr Ile Ser Ile
    275                 280                 285
Val Ala Ala Ala Gly Arg Glu Leu Phe Met Thr Asp Arg Glu Arg Leu
    290                 295                 300
Ala Glu Ala Arg Gln Arg Glu Leu Gln Arg Gln Glu Leu Leu Met Gln
305                 310                 315                 320
Lys Arg Leu Ala Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu
                325                 330                 335
Met Glu Arg Gln Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu
            340                 345                 350
Asn Glu Arg Tyr Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu
    355                 360                 365
Lys Phe Lys Lys Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu
    370                 375                 380
Leu Leu Pro Lys Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg
385                 390                 395                 400
Lys Pro Lys Tyr Asp Gln Gly Val Glu Pro Glu Leu Glu Pro Ala Asp
                405                 410                 415
Asp Leu Asp Gly Gly Thr Glu Glu Gln Gly Glu Gln Asp Phe Arg Lys
                420                 425                 430
Tyr Glu Glu Gly Phe Asp Pro Tyr Ser Met Phe Thr Pro Glu Gln Ile
            435                 440                 445
Met Gly Lys Asp Val Arg Leu Leu Arg Ile Lys Lys Glu Gly Ser Leu
    450                 455                 460
Asp Leu Ala Leu Glu Gly Gly Val Asp Ser Pro Ile Gly Lys Val Val
465                 470                 475                 480
Val Ser Ala Val Tyr Glu Arg Gly Ala Ala Glu Arg His Gly Gly Ile
                485                 490                 495
Val Lys Gly Asp Glu Ile Met Ala Ile Asn Gly Lys Ile Val Thr Asp
            500                 505                 510
Tyr Thr Leu Ala Glu Ala Asp Ala Ala Leu Gln Lys Ala Trp Asn Gln
        515                 520                 525
Gly Gly Asp Trp Ile Asp Leu Val Val Ala Val Cys Pro Pro Lys Glu
```

```
        530                    535                   540
Tyr Asp Asp Glu Leu Thr Phe Leu Leu Lys Ser Lys Arg Gly Asn Gln
545                    550                   555                   560
Ile His Ala Leu Gly Asn Ser Glu Leu Arg Pro His Leu Val Asn Thr
                565                   570                   575
Lys Pro Arg Thr Ser Leu Glu Arg Gly His Met Thr His Thr Arg Trp
                580                   585                   590
His Pro Trp Asp Leu Asn Leu Ser Pro Arg Asn Leu Lys Leu Pro Leu
                595                   600                   605
Ala Leu Asn Gln Gly Gln Ile Arg Asn Ser Ser Gly His Phe Phe Glu
        610                    615                   620
Gly Gln Cys Gly Gly Lys Gly Ala Ala Ser Arg Leu Gly Glu Asp Leu
625                    630                   635                   640
Lys Asp Pro Asp Ser His Ser Phe Pro Leu Ala Gln
                645                   650
```

```
        <210> 95
        <211> 831
        <212> DNA
        <213> Homo Sapiens

        <400> 95
cataactggg actcgcgcgc ctgcaggtcg acactagtgg gatccaaaga attcggcacg    60
agaaaccaca atgcccagat ctcaagtaga tgaagagttt ttgaagcaaa gtttaaagga   120
aaaacnattg cagaaaacat ttagattnta tgaaatatat aatnanancc aaaanccatt   180
tgaanttaat nganccttac ctgtcntcac taaatcaggg ttntctgcgc caccnaaggg   240
cngcccancg cctgctgtgt tggcttanta ggcctnagca tanggggcagn tgcaatcctt   300
tcctcctnng gcggcanatg ggcttctgga anaacccttn ccttatcccc ancgcaaggc   360
ggccccctccc ctgccctnaa aggaaacctc ntggacncag ggaatatang gccaccttga   420
agggtggact ggctatcntg gaagatcaga taccaccaag caatttggag acagttcctg   480
ttgagaataa ccacggtttc catgaaaaga cagcagcgct gaagcttgag gccgagggcg   540
aggccatgga agatgcagcc gcgccaggga cgaccgagg cggcacacag gagccagccc   600
cagtgcctgc tgagccgttt gacaacacta cctacaagaa cctgcagcat catgactaca   660
gcacgtacac cttcttagac ctcaacctcg aactctcaaa attcaggatg cctcagcccct   720
cctcaggccg ggagtcacct cgacactgag ggccctcggt gtgaagatga accttccacc   780
gtcttcactg catcctggag tgcaaaaata aaatccactc aagagtcaaa a             831
```

```
        <210> 96
        <211> 184
        <212> PRT
        <213> Homo Sapiens

        <400> 96
Arg Lys Asn Cys Arg Lys His Leu Asp Met Lys Tyr Ile Lys His Leu
1               5                   10                  15
Leu Pro Tyr Leu Ser Ser Leu Asn Gln Gly Leu Arg His Arg Ala Ala
            20                  25                  30
Arg Leu Leu Cys Trp Leu Arg Pro His Gly Cys Asn Pro Phe Leu Leu
            35                  40                  45
Arg Met Gly Phe Trp Asn Pro Leu Ile Pro Ala Arg Arg Pro Leu Pro
        50                  55                  60
Cys Pro Arg Lys Pro Gly Arg Glu Tyr Ala Thr Leu Lys Gly Gly Leu
65                  70                  75                  80
Ala Ile Glu Asp Gln Ile Pro Pro Ser Asn Leu Glu Thr Val Pro Val
                85                  90                  95
```

```
Glu Asn Asn His Gly Phe His Glu Lys Thr Ala Ala Leu Lys Leu Glu
            100             105             110
Ala Glu Gly Glu Ala Met Glu Asp Ala Ala Ala Pro Gly Asn Asp Arg
        115                 120             125
Gly Gly Thr Gln Glu Pro Ala Pro Val Pro Ala Glu Pro Phe Asp Asn
        130                 135             140
Thr Thr Tyr Lys Asn Leu Gln His His Asp Tyr Ser Thr Tyr Thr Phe
145             150                 155             160
Leu Asp Leu Asn Leu Glu Leu Ser Lys Phe Arg Met Pro Gln Pro Ser
                165                 170             175
Ser Gly Arg Glu Ser Pro Arg His
                180
```

```
        <210> 97
        <211> 1008
        <212> DNA
        <213> Homo Sapiens

        <400> 97
gcaaggtctc caagtcccag ctcaaggtcc tttcccataa cctgtgcacg gtgctgaagg      60
ttcctcatga cccagttgcc cttgaagagc acttcaggga tgatgatgag ggtccagtgt     120
ccaaccaggg ctacatgcct tatttaaaca ggttcatttt ggaaaaggtc caagacaact     180
ttgacaagat tgaattcaat aggatgtgtt ggaccctctg tgtcaaaaaa aacctcacaa     240
agaatcccct gctcattaca gaagaanatg catttaaaat atgggttatt ttcaactttt     300
tatctgagga caagtatcca ttaattattg tgtcagaana gattgaatac ctgcttaaga     360
agcttacaga agctatggga ggaggttggc agcaagaaca atttgaacat tataaaatca     420
actttgatga cagtaaaaat ggcctttctg catgggaact tattgagctt attggaaatg     480
gacagtttag caaaggcatg gaccggcaga ctgtgtctat ggcaattaat gaagtcttta     540
atgaacttat attagatgtg ttaaagcagg gttacatgat gaaaaagggc cacagacgga     600
aaaactggac tgaacgatgg tttgtactaa acccaacat aatttcttac tatgtgagtg       660
aggatctgaa ggataagaaa ggagacattc tcttggatga aaattgctgt gtagagtcct     720
tgcctgacaa agatggaaag aaatgccttt ttctcgtaaa atgttttgat aagacttttg     780
aaatcagtgc ttcagataag aanaanaaac aggagtggat tcaagccatt cattctacta     840
ttcatctgtt gaagctgngc agccctccac canacaaaga agccnnccag cttctnaaan     900
aactccggna gaatcatctg gctgaacaag angaactgga gcgacaaatg aangaactcc     960
aagcccgcca atgaaagcaa ncagcaagag ctggaaggcc ttncggaa              1008
```

```
        <210> 98
        <211> 312
        <212> PRT
        <213> Homo Sapiens

        <400> 98
Lys Val Ser Lys Ser Gln Leu Lys Val Leu Ser His Asn Leu Cys Thr
1               5                   10                  15
Val Leu Lys Val Pro His Asp Pro Val Ala Leu Glu Glu His Phe Arg
            20                  25                  30
Asp Asp Asp Glu Gly Pro Val Ser Asn Gln Gly Tyr Met Pro Tyr Leu
            35                  40                  45
Asn Arg Phe Ile Leu Glu Lys Val Gln Asp Asn Phe Asp Lys Ile Glu
        50                  55                  60
Phe Asn Arg Met Cys Trp Thr Leu Cys Val Lys Lys Asn Leu Thr Lys
65                  70                  75                  80
Asn Pro Leu Leu Ile Thr Glu Glu Ala Phe Lys Ile Trp Val Ile Phe
                85                  90                  95
```

```
Asn Phe Leu Ser Glu Asp Lys Tyr Pro Leu Ile Ile Val Ser Glu Ile
            100                 105                 110
Glu Tyr Leu Leu Lys Lys Leu Thr Glu Ala Met Gly Gly Gly Trp Gln
        115                 120                 125
Gln Glu Gln Phe Glu His Tyr Lys Ile Asn Phe Asp Asp Ser Lys Asn
        130                 135                 140
Gly Leu Ser Ala Trp Glu Leu Ile Glu Leu Ile Gly Asn Gly Gln Phe
145                 150                 155                 160
Ser Lys Gly Met Asp Arg Gln Thr Val Ser Met Ala Ile Asn Glu Val
            165                 170                 175
Phe Asn Glu Leu Ile Leu Asp Val Leu Lys Gln Gly Tyr Met Met Lys
        180                 185                 190
Lys Gly His Arg Arg Lys Asn Trp Thr Glu Arg Trp Phe Val Leu Lys
        195                 200                 205
Pro Asn Ile Ile Ser Tyr Tyr Val Ser Glu Asp Leu Lys Asp Lys Lys
        210                 215                 220
Gly Asp Ile Leu Leu Asp Glu Asn Cys Cys Val Glu Ser Leu Pro Asp
225                 230                 235                 240
Lys Asp Gly Lys Lys Cys Leu Phe Leu Val Lys Cys Phe Asp Lys Thr
            245                 250                 255
Phe Glu Ile Ser Ala Ser Asp Lys Lys Gln Glu Trp Ile Gln Ala Ile
            260                 265                 270
His Ser Thr Ile His Leu Leu Lys Leu Ser Pro Pro Lys Glu Ala
        275                 280                 285
Gln Leu Leu Lys Leu Arg Asn His Leu Ala Glu Gln Glu Leu Glu Arg
        290                 295                 300
Gln Met Glu Leu Gln Ala Arg Gln
305                 310
```

```
        <210> 99
        <211> 1009
        <212> DNA
        <213> Homo Sapiens

        <400> 99
ggctaatgta acatactcta ccacttggtc tgaagcccag cagtatctga tggataatcc      60
aacttttgca gaagatgagg agttacaaaa tatggacaaa gaagatgcat taatttgctt     120
tgaagaacac attcgggctt tagaaaagga ggaagaagaa gaaaacaga agagtttgct      180
gagagaaagg agacgacagc gaaaaaatag ggaatctttc cagatatttt tagatgaatt     240
acatgaacat ggacaactgc attctatgtc atcttggatg gaattgtatc caactattag     300
ttctgatatt agattcacta atatgcttgg tcagcctgga tcaactgcac ttgatctttt     360
caagttttat gttgaggatc ttaaagcacg ttatcatgac gagaagaaga taataaaaga     420
cattctaaag gataaaggat ttgtagttga agtaaacact actttgaag atttt gtggc      480
gataatcagt tcaactaaaa gatcaactac attagatgct ggaaatatca aattggcttt     540
caatagttta ctagaaaagg cagaagcccg tgaacgtgaa agagaaaaag aagaggctcg     600
gaagatgaaa cgaaaagaat ctgcatttaa gagtatgtta aacaagctg ctcctccgat      660
agaattggat gctgtctggg aagatatccg tgagagattt gtaaaagagc cagcatttga     720
ggacataact ctagaatctg aaagaaaacg aatatttaaa gattttatgc atgtgcttga     780
gcatgaatgt cagcatcatc attcaaagaa caagaaacat tctaagaaat ctaaaaaaca     840
tcataggaaa cgttcccgct ctcgatcggg gtcagattca ngatgatgat gatagccatt     900
caaagaaaaa aagacagcga tgagaagtct cggtctgntt canaacattc ttccantngc     960
agagtctgag agaagtntaa aaagtcaaaa nagcatagan aggaaagtt             1009
```

```
        <210> 100
        <211> 292
```

```
<212> PRT
<213> Homo Sapiens

<400> 100
Ala Asn Val Thr Tyr Ser Thr Thr Trp Ser Glu Ala Gln Gln Tyr Leu
1               5                   10                  15
Met Asp Asn Pro Thr Phe Ala Glu Asp Glu Glu Leu Gln Asn Met Asp
            20                  25                  30
Lys Glu Asp Ala Leu Ile Cys Phe Glu Glu His Ile Arg Ala Leu Glu
        35                  40                  45
Lys Glu Glu Glu Glu Glu Lys Gln Lys Ser Leu Leu Arg Glu Arg Arg
        50                  55                  60
Arg Gln Arg Lys Asn Arg Glu Ser Phe Gln Ile Phe Leu Asp Glu Leu
65                  70                  75                  80
His Glu His Gly Gln Leu His Ser Met Ser Ser Trp Met Glu Leu Tyr
                85                  90                  95
Pro Thr Ile Ser Ser Asp Ile Arg Phe Thr Asn Met Leu Gly Gln Pro
                100                 105                 110
Gly Ser Thr Ala Leu Asp Leu Phe Lys Phe Tyr Val Glu Asp Leu Lys
            115                 120                 125
Ala Arg Tyr His Asp Glu Lys Lys Ile Ile Lys Asp Ile Leu Lys Asp
        130                 135                 140
Lys Gly Phe Val Val Glu Val Asn Thr Thr Phe Glu Asp Phe Val Ala
145                 150                 155                 160
Ile Ile Ser Ser Thr Lys Arg Ser Thr Thr Leu Asp Ala Gly Asn Ile
                165                 170                 175
Lys Leu Ala Phe Asn Ser Leu Leu Glu Lys Ala Glu Ala Arg Glu Arg
            180                 185                 190
Glu Arg Glu Lys Glu Glu Ala Arg Lys Met Lys Arg Lys Glu Ser Ala
        195                 200                 205
Phe Lys Ser Met Leu Lys Gln Ala Ala Pro Pro Ile Glu Leu Asp Ala
    210                 215                 220
Val Trp Glu Asp Ile Arg Glu Arg Phe Val Lys Glu Pro Ala Phe Glu
225                 230                 235                 240
Asp Ile Thr Leu Glu Ser Glu Arg Lys Arg Ile Phe Lys Asp Phe Met
                245                 250                 255
His Val Leu Glu His Glu Cys Gln His His His Ser Lys Asn Lys Lys
            260                 265                 270
His Ser Lys Lys Ser Lys Lys His His Arg Lys Arg Ser Arg Ser Arg
        275                 280                 285
Ser Gly Ser Asp
290


<210> 101
<211> 983
<212> DNA
<213> Homo Sapiens

<400> 101
aggtgacaat agatatagaa gtacgttgat gtgcgaagat gtattttgtt ttagccagcg    60
aggaaaaaag aatcagtttg attatacatt taccaaacat taagaattta atatggtaac   120
ttttatttca gtattaaaat agcaatttta tttattactt ttttatatat agaatttgac   180
accaaatttt ggaacttaaa aagaagattc ttaaaactta caatccagat tacgatgagg   240
acctggtgca ggaagcttca tctgaagatg tcctgggcgt tcatatggtg gacaaagaca   300
cagagagaga cattgagatg aaacggcaac tacggcgact acgggagctc cacctataca   360
```

```
gcacatggaa gaagtaccaa gaggcgatga agacatcctt gggagttcca caacgtgagc    420
gtgacgaagg ctccttgggc aagccattgt gtccacccga gatactctcg agacgttgc     480
caggctctgt gaagaaaagg gtatgctttc catcagaaga tcatctagag gagtttatag    540
cagaacatct ccctgaagca tccaatcaga gtctcctcac tgttgcccat gcagacgcag    600
gcacccaaac caacggtgac ctggaagacc tggaggagca tgggccaggg cagacagtct    660
ctgaggaagc cacagaagtt cacatgatgg aggggggaccc agacacactg gccgaacttc    720
tgatcaggga tgtacttcag gagctgtcca gttacaacgg cgaggaggag gacccanagg    780
aggtgaagac atccttggga gttccacaac gtggtgacct ggaagacctg gaggagcatg    840
tgncagggca gnnnttctct gaggaagcca caggggttca catgatgcag gtggacccag    900
ccacgctggc aaagagtgac ctggaagacc tggaggagca tgtgccagag cagacagtct    960
ctgaggaagc cacaggggtt cac                                            983
```

        <210> 102
        <211> 230
        <212> PRT
        <213> Homo Sapiens

        <400> 102
```
Met Val Asp Lys Asp Thr Glu Arg Asp Ile Glu Met Lys Arg Gln Leu
1               5                   10                  15
Arg Arg Leu Arg Glu Leu His Leu Tyr Ser Thr Trp Lys Lys Tyr Gln
            20                  25                  30
Glu Ala Met Lys Thr Ser Leu Gly Val Pro Gln Arg Glu Arg Asp Glu
        35                  40                  45
Gly Ser Leu Gly Lys Pro Leu Cys Pro Pro Glu Ile Leu Ser Glu Thr
    50                  55                  60
Leu Pro Gly Ser Val Lys Lys Arg Val Cys Phe Pro Ser Glu Asp His
65                  70                  75                  80
Leu Glu Glu Phe Ile Ala Glu His Leu Pro Glu Ala Ser Asn Gln Ser
                85                  90                  95
Leu Leu Thr Val Ala His Ala Asp Ala Gly Thr Gln Thr Asn Gly Asp
            100                 105                 110
Leu Glu Asp Leu Glu Glu His Gly Pro Gly Gln Thr Val Ser Glu Glu
        115                 120                 125
Ala Thr Glu Val His Met Met Glu Gly Asp Pro Asp Thr Leu Ala Glu
    130                 135                 140
Leu Leu Ile Arg Asp Val Leu Gln Glu Leu Ser Ser Tyr Asn Gly Glu
145                 150                 155                 160
Glu Glu Asp Pro Glu Val Lys Thr Ser Leu Gly Val Pro Gln Arg Gly
            165                 170                 175
Asp Leu Glu Asp Leu Glu Glu His Val Gly Gln Phe Ser Glu Glu Ala
        180                 185                 190
Thr Gly Val His Met Met Gln Val Asp Pro Ala Thr Leu Ala Lys Ser
    195                 200                 205
Asp Leu Glu Asp Leu Glu Glu His Val Pro Glu Gln Thr Val Ser Glu
210                 215                 220
Glu Ala Thr Gly Val His
225                 230
```
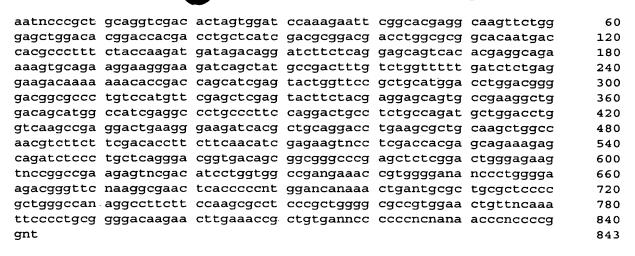
        <210> 103
        <211> 843
        <212> DNA
        <213> Homo Sapiens

        <400> 103

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aatncccgct gcaggtcgac actagtggat ccaaagaatt cggcacgagg caagttctgg      60
gagctggaca cggaccacga cctgctcatc gacgcggacg acctggcgcg gcacaatgac     120
cacgcccttt ctaccaagat gatagacagg atcttctcag gagcagtcac acgaggcaga     180
aaagtgcaga aggaagggaa gatcagctat gccgactttg tctggttttt gatctctgag     240
gaagacaaaa aaacaccgac cagcatcgag tactggttcc gctgcatgga cctggacggg     300
gacggcgccc tgtccatgtt cgagctcgag tacttctacg aggagcagtg ccgaaggctg     360
gacagcatgg ccatcgaggc cctgcccttc aggactgcc tctgccagat gctggacctg      420
gtcaagccga ggactgaagg gaagatcacg ctgcaggacc tgaagcgctg caagctggcc     480
aacgtcttct tcgacacctt cttcaacatc gagaagtncc tcgaccacga gcagaaagag     540
cagatctccc tgctcaggga cggtgacagc ggcgggcccg agctctcgga ctgggagaag     600
tnccggccga agagtncgac atcctggtgg ccgangaaac cgtggggana nccctgggga     660
agacgggttc naaggcgaac tcaccccnt ggancanaaa ctgantcgc tgcgctcccc       720
gctgggccan aggccttctt ccaagcgcct cccgctgggg cgccgtggaa ctgttncaaa     780
ttcccctgcg gggacaagaa cttgaaaccg ctgtgannc ccccncnana acccnccccg      840
gnt                                                                   843
```

<210> 104
<211> 197
<212> PRT
<213> Homo Sapiens

<400> 104
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Arg Cys Arg Ser Thr Leu Val Asp Pro Lys Asn Ser Ala Arg Gly Lys
 1               5                  10                  15
Phe Trp Glu Leu Asp Thr Asp His Asp Leu Leu Ile Asp Ala Asp Asp
            20                  25                  30
Leu Ala Arg His Asn Asp His Ala Leu Ser Thr Lys Met Ile Asp Arg
        35                  40                  45
Ile Phe Ser Gly Ala Val Thr Arg Gly Arg Lys Val Gln Lys Glu Gly
    50                  55                  60
Lys Ile Ser Tyr Ala Asp Phe Val Trp Phe Leu Ile Ser Glu Glu Asp
65                  70                  75                  80
Lys Lys Thr Pro Thr Ser Ile Glu Tyr Trp Phe Arg Cys Met Asp Leu
                85                  90                  95
Asp Gly Asp Gly Ala Leu Ser Met Phe Glu Leu Glu Tyr Phe Tyr Glu
                100                 105                 110
Glu Gln Cys Arg Arg Leu Asp Ser Met Ala Ile Glu Ala Leu Pro Phe
            115                 120                 125
Gln Asp Cys Leu Cys Gln Met Leu Asp Leu Val Lys Pro Arg Thr Glu
        130                 135                 140
Gly Lys Ile Thr Leu Gln Asp Leu Lys Arg Cys Lys Leu Ala Asn Val
145                 150                 155                 160
Phe Phe Asp Thr Phe Phe Asn Ile Glu Lys Leu Asp His Glu Gln Lys
                165                 170                 175
Glu Gln Ile Ser Leu Leu Arg Asp Gly Asp Ser Gly Gly Pro Glu Leu
                180                 185                 190
Ser Asp Trp Glu Lys
        195
```

<210> 105
<211> 2264
<212> DNA
<213> Homo Sapiens

<400> 105

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ctagcacaag tacacaggcc ccagccgctt cccctactgg tgtagttcct ggtaccaaat        60
atgcagtacc tgacacgtcc acttaccagt atgatgaatc ttcaggatat tactatgatc       120
cgacaacagg gctctattat gaccccaact cgcaatacta ctataattcc ttgacccagc       180
agtacctttta ctgggatggg gaaaaagaga cctacgtgcc agctgcagag tctagctccc       240
accagcagtc gggcctgcct cctgcaaaag aggggaaaga gaagaaggag aaacccaaga       300
gcaaaacagc ccagcagatt gccaaagaca tggaacgctg ggctaagagt ttgaataagc       360
agaaagaaaa ctttaaaaat agctttcagc ctgtcaattc cttgagggaa gaagaaagga       420
gagaatctgc tgcagcagac gctggctttg ctctctttga aagaagggga gccttagctg       480
aaaggcagca gctcatccca gaattggtgc gaaatggaga tgaggagaat cccctcaaaa       540
ggggtctggt tgctgcttac agtggtgaca gtgacaatga ggaggagctg gtggagagac       600
ttgagagtga ggaagagaag ctagctgact ggaagaagat ggcctgtctg ctctgccggc       660
gccagttccc gaacaaagat gccctagtca ggcaccagca actctcagac cttcacaagc       720
aaaacatgga catctaccga cgatccaggc tgagcgagca ggagctggaa gccttggagc       780
taagggagag agagatgaaa taccgagacc gagctgcaga aagacgggag aagtacggca       840
ttccagaacc tccagagccc aagcgcaaga gcagtttga tgccggcact gtgaattacg       900
agcaacccac caaagatggc attgaccaca gtaacattgg caacaagatg ctgcaggcca       960
tgggctggcg ggaaggctct ggcttgggac gaaagtgtca aggcattacg gctcccattg      1020
aggctcaagt tcggctaaag ggagctggcc taggagccaa aggcagcgca tatggtttgt      1080
cgggcgccga ttcctacaaa gatgctgtcc ggaaagccat gtttgcccgg ttcactgaga      1140
tggagtgaga gagagagaga gagagagatg acaaggagca caagaagtgg tccatctccc      1200
gaattcgctg ttaccgcctg tctctttaag ggcatgcctt gtgctgttaa tagatcttag      1260
ggtgaaccac ttcattctgc agggttctcc ctcccacctt aaagaagttc cccttatgtg      1320
ggttgcctgg tgaatggcct tccttcccgc cagagggctt gtgaacagac cggagaggac      1380
agtggattgt ttatactcca gtgtacatag tgtaatgtag cgtgtttaca tgtgtagcct      1440
atgttgtggt ccatcagccc ctcacattcc tagggggtttg agatgctgta ggtggtatgt      1500
gacaccaaag ccacctctgt catttgttgt gatgtctttt cttggcaaaa gccttgtgta      1560
tatttgtata ttacacattt gtacagaatt ttggaagatt ttcaatccaa gttgccaaat      1620
ctggctcctt tacaaaagaa ataccttgag aaaaaaaann aannaaaaaa aannccnan        1680
nnnttttttaa aanggggncgg gggccaannn ttttccnncc ggggngggna nnaagtaaan      1740
ngtcccaaat nccccccaaaa nggagcccnn ttaaaattaa angggccgcn nttttaaaan      1800
nttcngaatn gggnaaaccc tnggggtttn ccaaatttaa ccccttttgaa aaaaaancccc      1860
ctttcncaaa annggggntaa tanccaaaaa gggcccccan ccattttttgc ccnttccaaa      1920
aaaatttgnc caanccnnaa atgggnaaan ggggaatcca atttttttaaa gggnnaaaan      1980
gggtttaaac nnacgggntt ccaaanttgn ttgggggaat ttttaaattc ccaannnccc      2040
aaggggggnca atttagnggn cccnaatcc cccaaaaant ggttcnnggn tnaaancngc      2100
cnnnnccnaa tttntangg tttacttngn tttaaaaaac ccncccaaaa actcccccnn      2160
gaaccnaaaaa aanaaaagga ngccatttttt ngnngnaaac ttttttaann nnccnnttaa      2220
angggttaaa aaannnnnnnn tnnncccnaa tttttcaaaan aang                      2264
```

```
        <210> 106
        <211> 381
        <212> PRT
        <213> Homo Sapiens

        <400> 106
Ser Thr Ser Thr Gln Ala Pro Ala Ala Ser Pro Thr Gly Val Val Pro
1               5                   10                  15
Gly Thr Lys Tyr Ala Val Pro Asp Thr Ser Thr Tyr Gln Tyr Asp Glu
            20                  25                  30
Ser Ser Gly Tyr Tyr Tyr Asp Pro Thr Thr Gly Leu Tyr Tyr Asp Pro
        35                  40                  45
Asn Ser Gln Tyr Tyr Tyr Asn Ser Leu Thr Gln Gln Tyr Leu Tyr Trp
    50                  55                  60
Asp Gly Glu Lys Glu Thr Tyr Val Pro Ala Ala Glu Ser Ser Ser His
65                  70                  75                  80
```

```
Gln Gln Ser Gly Leu Pro Pro Ala Lys Glu Gly Lys Glu Lys Lys Glu
             85                  90                  95
Lys Pro Lys Ser Lys Thr Ala Gln Gln Ile Ala Lys Asp Met Glu Arg
             100                 105                 110
Trp Ala Lys Ser Leu Asn Lys Gln Lys Glu Asn Phe Lys Asn Ser Phe
             115                 120                 125
Gln Pro Val Asn Ser Leu Arg Glu Glu Glu Arg Arg Glu Ser Ala Ala
         130                 135                 140
Ala Asp Ala Gly Phe Ala Leu Phe Glu Lys Lys Gly Ala Leu Ala Glu
145                 150                 155                 160
Arg Gln Gln Leu Ile Pro Glu Leu Val Arg Asn Gly Asp Glu Glu Asn
                 165                 170                 175
Pro Leu Lys Arg Gly Leu Val Ala Ala Tyr Ser Gly Asp Ser Asp Asn
             180                 185                 190
Glu Glu Glu Leu Val Glu Arg Leu Glu Ser Glu Glu Glu Lys Leu Ala
         195                 200                 205
Asp Trp Lys Lys Met Ala Cys Leu Leu Cys Arg Arg Gln Phe Pro Asn
210                 215                 220
Lys Asp Ala Leu Val Arg His Gln Gln Leu Ser Asp Leu His Lys Gln
225                 230                 235                 240
Asn Met Asp Ile Tyr Arg Arg Ser Arg Leu Ser Glu Gln Glu Leu Glu
                 245                 250                 255
Ala Leu Glu Leu Arg Glu Arg Glu Met Lys Tyr Arg Asp Arg Ala Ala
             260                 265                 270
Glu Arg Arg Glu Lys Tyr Gly Ile Pro Glu Pro Pro Glu Pro Lys Arg
         275                 280                 285
Lys Lys Gln Phe Asp Ala Gly Thr Val Asn Tyr Glu Gln Pro Thr Lys
         290                 295                 300
Asp Gly Ile Asp His Ser Asn Ile Gly Asn Lys Met Leu Gln Ala Met
305                 310                 315                 320
Gly Trp Arg Glu Gly Ser Gly Leu Gly Arg Lys Cys Gln Gly Ile Thr
                 325                 330                 335
Ala Pro Ile Glu Ala Gln Val Arg Leu Lys Gly Ala Gly Leu Gly Ala
             340                 345                 350
Lys Gly Ser Ala Tyr Gly Leu Ser Gly Ala Asp Ser Tyr Lys Asp Ala
         355                 360                 365
Val Arg Lys Ala Met Phe Ala Arg Phe Thr Glu Met Glu
370                 375                 380
```

```
    <210> 107
    <211> 1367
    <212> DNA
    <213> Homo Sapiens

    <400> 107
gcgacacagg cctcgaggct gtctctgaca agtgttcaca ggaggtgggg acgcctctgc    60
gcgaggaacg aggagctacg ggcctgggcc cggttattgc catgggcagc ggctgccgca   120
tcgaatgcat attcttcagc gagttccacc ccacgctggg acccaagatc acctatcagg   180
tccctgaaga cttcatctcc cgagagctgt ttgacacagt ccaagtgtac atcatcacca   240
agccagagct gcagaacaag cttatcactg tcacagctat ggaaaagaag ctgatcggct   300
gtcctgtgtg catcgaacac aagaagtaca gccgcaatgc tctcctcttc aacctgggct   360
tcgtgtgtga tgcccaggcc aagacctgcg ccctcgagcc cattgttaaa aagctggctg   420
gctatctgac cacactagag ctagagagca gcttcgtgtc catggaggag agcaagcaga   480
agttggtgcc catcatgacc atcttgctgg aggagctaaa tgcctcaggc cggtgcactc   540
tgcccattga tgagtccaac accatccact tgaaggtgat tgagcagcgg ccagaccctc   600
```

-73-

●

●

```
cggtggccca ggagtatgat gtacctgtct ttaccaaaga caaggaggat ttcttcaact     660
cacagtggga cctcactaca caacaaatcc tgccctacat tgatgggttc cgccacatcc     720
agaagatttc agcagaggca gatgtggagc tcaacctggt gcgcattgct atccagaacc     780
tgctgtacta cggcgttgtg acactggtgt ccatcctcca gtactccaat gtatactgcc     840
caacgcccaa ggtccaggac ctggtagatg acaagtccct gcaagaggca tgtctatcct     900
acgtgaccaa gcaagggcac aagagggcca gtctccggga tgtgttccag ctatactgca     960
gcctgagccc tggcactacc gtgcgagacc tcattggccg ccacccccag cagctgcagc    1020
atgttgatga acggaagctg atccagttcg ggcttatgaa gaacctcatc aggcgactac    1080
agaagtatcc tgtgcgggtg actcgggaag agcagagcca ccctgcccgg ctttatacag    1140
gctgccacag ctatgacgag atctgctgca agacaggcat gagctaccat gagctggatg    1200
agcggcttga aaatgacccc aacatcatca tctgctggaa gtgaggctgg tagtgactgg    1260
atggacacat tgctgtgggt agtccctcct actaggaggc ttgtcatact gtctagaggt    1320
tgactcttag ttctgtaaat aaagacatcc atttcaaaca gccaaaa                 1367
```

```
        <210> 108
        <211> 413
        <212> PRT
        <213> Homo Sapiens

        <400> 108
Asp Thr Gly Leu Glu Ala Val Ser Asp Lys Cys Ser Gln Glu Val Gly
1               5                  10                  15
Thr Pro Leu Arg Glu Glu Arg Gly Ala Thr Gly Leu Gly Pro Val Ile
            20                  25                  30
Ala Met Gly Ser Gly Cys Arg Ile Glu Cys Ile Phe Phe Ser Glu Phe
        35                  40                  45
His Pro Thr Leu Gly Pro Lys Ile Thr Tyr Gln Val Pro Glu Asp Phe
    50                  55                  60
Ile Ser Arg Glu Leu Phe Asp Thr Val Gln Val Tyr Ile Ile Thr Lys
65                  70                  75                  80
Pro Glu Leu Gln Asn Lys Leu Ile Thr Val Thr Ala Met Glu Lys Lys
                85                  90                  95
Leu Ile Gly Cys Pro Val Cys Ile Glu His Lys Lys Tyr Ser Arg Asn
            100                 105                 110
Ala Leu Leu Phe Asn Leu Gly Phe Val Cys Asp Ala Gln Ala Lys Thr
        115                 120                 125
Cys Ala Leu Glu Pro Ile Val Lys Lys Leu Ala Gly Tyr Leu Thr Thr
    130                 135                 140
Leu Glu Leu Glu Ser Ser Phe Val Ser Met Glu Glu Ser Lys Gln Lys
145                 150                 155                 160
Leu Val Pro Ile Met Thr Ile Leu Leu Glu Glu Leu Asn Ala Ser Gly
                165                 170                 175
Arg Cys Thr Leu Pro Ile Asp Glu Ser Asn Thr Ile His Leu Lys Val
            180                 185                 190
Ile Glu Gln Arg Pro Asp Pro Pro Val Ala Gln Glu Tyr Asp Val Pro
        195                 200                 205
Val Phe Thr Lys Asp Lys Glu Asp Phe Phe Asn Ser Gln Trp Asp Leu
    210                 215                 220
Thr Thr Gln Gln Ile Leu Pro Tyr Ile Asp Gly Phe Arg His Ile Gln
225                 230                 235                 240
Lys Ile Ser Ala Glu Ala Asp Val Glu Leu Asn Leu Val Arg Ile Ala
                245                 250                 255
Ile Gln Asn Leu Leu Tyr Tyr Gly Val Val Thr Leu Val Ser Ile Leu
            260                 265                 270
Gln Tyr Ser Asn Val Tyr Cys Pro Thr Pro Lys Val Gln Asp Leu Val
```

```
            275                    280                    285
Asp Asp Lys Ser Leu Gln Glu Ala Cys Leu Ser Tyr Val Thr Lys Gln
        290                    295                    300
Gly His Lys Arg Ala Ser Leu Arg Asp Val Phe Gln Leu Tyr Cys Ser
305                    310                    315                    320
Leu Ser Pro Gly Thr Thr Val Arg Asp Leu Ile Gly Arg His Pro Gln
                325                    330                    335
Gln Leu Gln His Val Asp Glu Arg Lys Leu Ile Gln Phe Gly Leu Met
                340                    345                    350
Lys Asn Leu Ile Arg Arg Leu Gln Lys Tyr Pro Val Arg Val Thr Arg
                355                    360                    365
Glu Glu Gln Ser His Pro Ala Arg Leu Tyr Thr Gly Cys His Ser Tyr
        370                    375                    380
Asp Glu Ile Cys Cys Lys Thr Gly Met Ser Tyr His Glu Leu Asp Glu
385                    390                    395                    400
Arg Leu Glu Asn Asp Pro Asn Ile Ile Ile Cys Trp Lys
                405                    410
```

```
    <210> 109
    <211> 2113
    <212> DNA
    <213> Homo Sapiens

    <400> 109
gtgcggttgg gaacgcggag cggacggatt cgattcaacg gggttccgga ccgcgctgcg   60
ctatggagca ggtcaatgag ctgaaggaga aaggcaacaa ggccctgagc gtgggtaaca   120
tcgatgatgc cttacagtgc tactccgaag ctattaagct ggatccccac aaccacgtgc   180
tgtacagcaa ccgttctgct gcctatgcca agaaaggaga ctaccagaag gcttatgagg   240
atggctgcaa gactgtcgac ctaaagcctg actggggcaa gggctattca cgaaaagcag   300
cagctctaga gttcttaaac cgctttgaag aagccaagcg aacctatgag gagggcttaa   360
aacacgaggc aaataaccct caactgaaag agggtttaca gaatatggag gccaggttgg   420
cagagagaaa attcatgaac cctttcaaca tgcctaatct gtatcagaag ttggagagtg   480
atcccaggac aaggacacta ctcagtgatc ctacctaccg ggagctgata gagcagctac   540
gaaacaagcc ttctgacctg ggcacgaaac tacaagatcc ccggatcatg accactctca   600
gcgtcctcct tggggtcgat ctgggcagta tggatgagga ggaagagatt gcaacacctc   660
caccaccacc ccctcccaaa aaggagacca agccagagcc aatggaagaa gatcttccag   720
agaataagaa gcaggcactg aaagaaaaag agctggggaa cgatgcctac aagaagaaag   780
actttgacac agccttgaag cattacgaca agccaaggga ctggacccc actaacatga   840
cttacattac caatcaagca gcggtatact ttgaaaaggg cgactacaat aagtgccggg   900
agctttgtga gaaggccatt gaagtgggga gagaaaaccg agaagactat cgacagattg   960
ccaaagcata tgctcgaatt ggcaactcct acttcaaaga agaaaagtac aaggatgcca   1020
tccatttcta taacaagtct ctggcagagc accgaacccc agatgtgctc aagaaatgcc   1080
agcaggcaga gaaaatcctg aaggagcaag agcggctggc ctacataaac cccgacctgg   1140
ctttggagga gaagaacaaa ggcaacgagt gttttcagaa aggggactat ccccaggcca   1200
tgaagcatta tacagaagcc atcaaaagga acccgaaaga tgccaaatta tacagcaatc   1260
gagctgcctg ctacaccaaa ctcctggagt tccagctggc actcaaggac tgtgaggaat   1320
gtatccagct ggagccgacc ttcatcaagg gttatacacg gaaagccgct cgcctggaag   1380
cgatgaagga ctacaccaaa gccatggatg tgtaccagaa ggcgctagac ctggactcca   1440
gctgtaagga ggcggcagac ggctaccagc gctgtatgat ggcgcagtac aaccggcacg   1500
acagccccga agatgtgaag cgacgagcca tggccgaccc tgaggtgcag cagatcatga   1560
gtgacccagc catgcgcctt atcctggaac agatgcagaa ggacccccag gcactcagcg   1620
aacacttaaa gaatcctgta atagcacaga agatccagaa gctgatggat gtgggtctga   1680
ttgcaattcg gtgatgactt gttcatcccc ccttcccttc gccctcatgt ggaaagagga   1740
gctgggaccg cggcgagcag cacggagcgg aagggagagc aggggagaga aggcctcatc   1800
tctctatatt tatacataac cccggggaag acacagagac tcgtacctgc gctgtttgtg   1860
```

```
ccgccgctgc ctctgggccc tcccagcaca cgcatggtct cttcaccgct gccctcgagt    1920
tccatgtctc tttcccctgc ccctagttgc tgtctcggct gctctcccat agttggtttt    1980
ttttttattt ggggcagtgg gcatgttatg gggaggggag ggggttcttc cagcctcagg    2040
tcccagctgt ctcacgttgt ttattctgcg tccccttctc caataaaaca agccagttgg    2100
gcgtggttat aac                                                       2113
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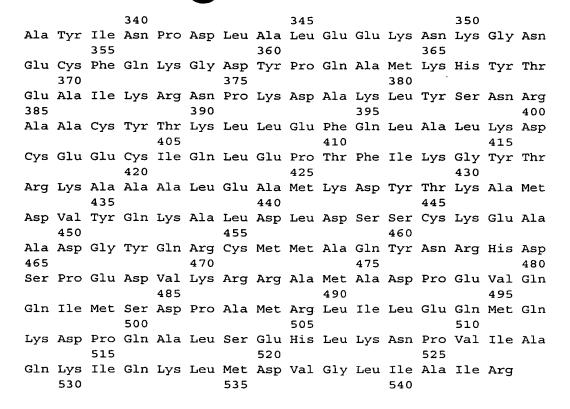
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        <210> 110
        <211> 543
        <212> PRT
        <213> Homo Sapiens

        <400> 110
Met Glu Gln Val Asn Glu Leu Lys Glu Lys Gly Asn Lys Ala Leu Ser
1               5                   10                  15
Val Gly Asn Ile Asp Asp Ala Leu Gln Cys Tyr Ser Glu Ala Ile Lys
            20                  25                  30
Leu Asp Pro His Asn His Val Leu Tyr Ser Asn Arg Ser Ala Ala Tyr
            35                  40                  45
Ala Lys Lys Gly Asp Tyr Gln Lys Ala Tyr Glu Asp Gly Cys Lys Thr
    50                  55                  60
Val Asp Leu Lys Pro Asp Trp Gly Lys Gly Tyr Ser Arg Lys Ala Ala
65                  70                  75                  80
Ala Leu Glu Phe Leu Asn Arg Phe Glu Glu Ala Lys Arg Thr Tyr Glu
                85                  90                  95
Glu Gly Leu Lys His Glu Ala Asn Asn Pro Gln Leu Lys Glu Gly Leu
            100                 105                 110
Gln Asn Met Glu Ala Arg Leu Ala Glu Arg Lys Phe Met Asn Pro Phe
            115                 120                 125
Asn Met Pro Asn Leu Tyr Gln Lys Leu Glu Ser Asp Pro Arg Thr Arg
        130                 135                 140
Thr Leu Leu Ser Asp Pro Thr Tyr Arg Glu Leu Ile Glu Gln Leu Arg
145                 150                 155                 160
Asn Lys Pro Ser Asp Leu Gly Thr Lys Leu Gln Asp Pro Arg Ile Met
                165                 170                 175
Thr Thr Leu Ser Val Leu Leu Gly Val Asp Leu Gly Ser Met Asp Glu
            180                 185                 190
Glu Glu Glu Ile Ala Thr Pro Pro Pro Pro Pro Pro Lys Lys Glu
            195                 200                 205
Thr Lys Pro Glu Pro Met Glu Glu Asp Leu Pro Glu Asn Lys Lys Gln
        210                 215                 220
Ala Leu Lys Glu Lys Glu Leu Gly Asn Asp Ala Tyr Lys Lys Lys Asp
225                 230                 235                 240
Phe Asp Thr Ala Leu Lys His Tyr Asp Lys Ala Lys Glu Leu Asp Pro
                245                 250                 255
Thr Asn Met Thr Tyr Ile Thr Asn Gln Ala Ala Val Tyr Phe Glu Lys
            260                 265                 270
Gly Asp Tyr Asn Lys Cys Arg Glu Leu Cys Glu Lys Ala Ile Glu Val
            275                 280                 285
Gly Arg Glu Asn Arg Glu Asp Tyr Arg Gln Ile Ala Lys Ala Tyr Ala
        290                 295                 300
Arg Ile Gly Asn Ser Tyr Phe Lys Glu Glu Lys Tyr Lys Asp Ala Ile
305                 310                 315                 320
His Phe Tyr Asn Lys Ser Leu Ala Glu His Arg Thr Pro Asp Val Leu
                325                 330                 335
Lys Lys Cys Gln Gln Ala Glu Lys Ile Leu Lys Glu Gln Glu Arg Leu
```

```
              340                    345                    350
Ala Tyr Ile Asn Pro Asp Leu Ala Leu Glu Glu Lys Asn Lys Gly Asn
              355                    360                    365
Glu Cys Phe Gln Lys Gly Asp Tyr Pro Gln Ala Met Lys His Tyr Thr
          370                    375                    380
Glu Ala Ile Lys Arg Asn Pro Lys Asp Ala Lys Leu Tyr Ser Asn Arg
385                    390                    395                    400
Ala Ala Cys Tyr Thr Lys Leu Leu Glu Phe Gln Leu Ala Leu Lys Asp
                  405                    410                    415
Cys Glu Glu Cys Ile Gln Leu Glu Pro Thr Phe Ile Lys Gly Tyr Thr
              420                    425                    430
Arg Lys Ala Ala Ala Leu Glu Ala Met Lys Asp Tyr Thr Lys Ala Met
          435                    440                    445
Asp Val Tyr Gln Lys Ala Leu Asp Leu Asp Ser Ser Cys Lys Glu Ala
          450                    455                    460
Ala Asp Gly Tyr Gln Arg Cys Met Met Ala Gln Tyr Asn Arg His Asp
465                    470                    475                    480
Ser Pro Glu Asp Val Lys Arg Arg Ala Met Ala Asp Pro Glu Val Gln
                  485                    490                    495
Gln Ile Met Ser Asp Pro Ala Met Arg Leu Ile Leu Glu Gln Met Gln
              500                    505                    510
Lys Asp Pro Gln Ala Leu Ser Glu His Leu Lys Asn Pro Val Ile Ala
          515                    520                    525
Gln Lys Ile Gln Lys Leu Met Asp Val Gly Leu Ile Ala Ile Arg
      530                    535                    540
```

```
        <210> 111
        <211> 2765
        <212> DNA
        <213> Homo Sapiens

        <400> 111
gggctgcgac tgacaagcgg ctctgcccgg gaccttctcg ctttcatcta gcgctgcact    60
caatggaggg gcgggcaccg cagtgcttaa tgctgtctta actagtgtag gaaaacggct   120
caacccaccg ctgccgaaat gaagtataag aatcttatgg caagggcctt atatgacaat   180
gtcccagagt gtgccgagga actggccttt cgcaagggag acatcctgac cgtcatagag   240
cagaacacag ggggactgga aggatggtgg ctgtgctcgt tacacggtcg gcaaggcatt   300
gtcccaggca accgggtgaa gcttctgatt ggtcccatgc aggagactgc tccagtcac   360
gagcagcctg cctctggact gatgcagcag acctttggcc aacagaagct ctatcaagtg   420
ccaaacccac aggctgctcc ccgagacacc atctaccaag tgccaccttc ctaccaaaat   480
cagggaattt accaagtccc cactggccac ggcacccaag aacaagaggt atatcaggtg   540
ccaccatcag tgcagagaag cattggggga accagtgggc cccacgtggg taaaaaggtg   600
ataacccccg tgaggacagg ccatggctac gtatacgagt acccatccag ataccaaaag   660
gatgtctatg atatccctcc ttctcatacc actcaagggg tatacgacat ccctccctca   720
tcagcaaaag gccctgtgtt ttcagttcca gtgggagaga taaaacctca aggggtgtat   780
gacatcccgc ctacaaaagg ggtatatgcc attccgccct ctgcttgccg ggatgaagca   840
gggcttaggg aaaaagacta tgacttcccc cctcccatga caagctggg aaggccggac   900
ctcagaccgg agggggttta tgacattcct ccaacctgca ccaagccagc agggaaggac   960
cttcatgtaa aatacaactg tgacattcca ggagctgcag aaccggtggc tcgaaggcac  1020
cagagcctgt ccccgaatca cccaccccg caactcggac agtcagtggg ctctcagaac  1080
gacgcatatg atgtcccccg aggcgttcag tttcttgagc caccagcaga aaccagtgag  1140
aaagcaaacc cccaggaaag ggatggtgtt tatgatgtcc ctctgcataa cccgccagat  1200
gctaaaggct ctcgggactt ggtggatggg atcaaccgat tgtctttctc cagtacaggc  1260
agcacccgga gtaacatgtc cacgtcttcc acctcctcca aggagtcctc actgtcagcc  1320
tccccagctc aggacaaaag gctcttcctg gatccagaca cagctattga gagacttcag  1380
```

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```
cggctccagc aggcccttga gatgggtgtc tccagcctaa tggcactggt cactaccgac   1440
tggcggtgtt acggatatat ggaaagacac atcaatgaaa tacgcacagc agtggacaag   1500
gtggagctgt tcctgaagga gtacctccac tttgtcaagg gagctgttgc aaatgctgcc   1560
tgcctcccgg aactcatcct ccacaacaag atgaagcggg agctgcaacg agtcgaagac   1620
tcccaccaga tcctgagtca aaccagccat gacttaaatg agtgcagctg gtccctgaat   1680
atcttggcca tcaacaagcc ccagaacaag tgtgacgatc tggaccggtt tgtgatggtg   1740
gcaaagacgg tgcccgatga cgccaagcag ctcaccacaa ccatcaacac caacgcagag   1800
gccctcttca gacccggccc tggcagcttg catctgaaga atgggccgga gagcatcatg   1860
aactcaacgg agtacccaca cggtggctcc cagggacagc tgctgcatcc tggtgaccac   1920
aaggcccagg cccacaacaa ggcactgccc ccaggcctga gcaaggagca ggcccctgac   1980
tgtagcagca gtgatggttc tgagaggagc tggatggatg actacgatta cgtccaccta   2040
cagggtaagg aggagtttga gaggcaacag aaagagctat tggaaaaaga gaatatcatg   2100
aaacagaaca agatgcagct ggaacatcat cagctgagcc agttccagct gttggaacaa   2160
gagattacaa agcccgtgga gaatgacatc tcgaagtgga agccctctca gagcctaccc   2220
accacaaaca gtggcgtgag tgctcaggat cggcagttgc tgtgcttcta ctatgaccaa   2280
tgtgagaccc atttcatttc ccttctcaac gccattgacg cactcttcag ttgtgtcagc   2340
tcagcccagc ccccgcgaat cttcgtggca cacagcaagt ttgtcatcct cagtgcacac   2400
aaactggtgt tcattggaga cacgctgaca cggcaggtga ctgcccagga cattcgcaac   2460
aaagtcatga actccagcaa ccagctctgc gagcagctca agactatagt catggcaacc   2520
aagatggccg ccctccatta ccccagcacc acggccctgc aggaaatggt gcaccaagtg   2580
acagaccttt ctagaaatgc ccagctgttc aagcgctctt gctggagat ggcaacgttc   2640
tgagaagaaa aaaaagagga aggggactgc gttaacggtt actaaggaaa actggaaata   2700
ctgtctggtt tttgtaaatg ttatctattt ttgtagatat tttatataaa aatgaaatat   2760
tttcc                                                               2765
```

```
        <210> 112
        <211> 834
        <212> PRT
        <213> Homo Sapiens

        <400> 112
Met Lys Tyr Lys Asn Leu Met Ala Arg Ala Leu Tyr Asp Asn Val Pro
1               5                   10                  15
Glu Cys Ala Glu Glu Leu Ala Phe Arg Lys Gly Asp Ile Leu Thr Val
            20                  25                  30
Ile Glu Gln Asn Thr Gly Gly Leu Glu Gly Trp Trp Leu Cys Ser Leu
        35                  40                  45
His Gly Arg Gln Gly Ile Val Pro Gly Asn Arg Val Lys Leu Leu Ile
    50                  55                  60
Gly Pro Met Gln Glu Thr Ala Ser Ser His Glu Gln Pro Ala Ser Gly
65                  70                  75                  80
Leu Met Gln Gln Thr Phe Gly Gln Gln Lys Leu Tyr Gln Val Pro Asn
                85                  90                  95
Pro Gln Ala Ala Pro Arg Asp Thr Ile Tyr Gln Val Pro Pro Ser Tyr
            100                 105                 110
Gln Asn Gln Gly Ile Tyr Gln Val Pro Thr Gly His Gly Thr Gln Glu
        115                 120                 125
Gln Glu Val Tyr Gln Val Pro Pro Ser Val Gln Arg Ser Ile Gly Gly
    130                 135                 140
Thr Ser Gly Pro His Val Gly Lys Lys Val Ile Thr Pro Val Arg Thr
145                 150                 155                 160
Gly His Gly Tyr Val Tyr Glu Tyr Pro Ser Arg Tyr Gln Lys Asp Val
                165                 170                 175
Tyr Asp Ile Pro Pro Ser His Thr Thr Gln Gly Val Tyr Asp Ile Pro
            180                 185                 190
```

```
Pro Ser Ser Ala Lys Gly Pro Val Phe Ser Val Pro Val Gly Glu Ile
        195             200             205
Lys Pro Gln Gly Val Tyr Asp Ile Pro Pro Thr Lys Gly Val Tyr Ala
    210             215             220
Ile Pro Pro Ser Ala Cys Arg Asp Glu Ala Gly Leu Arg Glu Lys Asp
225             230             235             240
Tyr Asp Phe Pro Pro Met Arg Gln Ala Gly Arg Pro Asp Leu Arg
            245             250             255
Pro Glu Gly Val Tyr Asp Ile Pro Pro Thr Cys Thr Lys Pro Ala Gly
        260             265             270
Lys Asp Leu His Val Lys Tyr Asn Cys Asp Ile Pro Gly Ala Ala Glu
        275             280             285
Pro Val Ala Arg Arg His Gln Ser Leu Ser Pro Asn His Pro Pro Pro
        290             295             300
Gln Leu Gly Gln Ser Val Gly Ser Gln Asn Asp Ala Tyr Asp Val Pro
305             310             315             320
Arg Gly Val Gln Phe Leu Glu Pro Pro Ala Glu Thr Ser Glu Lys Ala
            325             330             335
Asn Pro Gln Glu Arg Asp Gly Val Tyr Asp Val Pro Leu His Asn Pro
        340             345             350
Pro Asp Ala Lys Gly Ser Arg Asp Leu Val Asp Gly Ile Asn Arg Leu
        355             360             365
Ser Phe Ser Ser Thr Gly Ser Thr Arg Ser Asn Met Ser Thr Ser Ser
    370             375             380
Thr Ser Ser Lys Glu Ser Ser Leu Ser Ala Ser Pro Ala Gln Asp Lys
385             390             395             400
Arg Leu Phe Leu Asp Pro Asp Thr Ala Ile Glu Arg Leu Gln Arg Leu
            405             410             415
Gln Gln Ala Leu Glu Met Gly Val Ser Ser Leu Met Ala Leu Val Thr
        420             425             430
Thr Asp Trp Arg Cys Tyr Gly Tyr Met Glu Arg His Ile Asn Glu Ile
        435             440             445
Arg Thr Ala Val Asp Lys Val Glu Leu Phe Leu Lys Glu Tyr Leu His
    450             455             460
Phe Val Lys Gly Ala Val Ala Asn Ala Ala Cys Leu Pro Glu Leu Ile
465             470             475             480
Leu His Asn Lys Met Lys Arg Glu Leu Gln Arg Val Glu Asp Ser His
            485             490             495
Gln Ile Leu Ser Gln Thr Ser His Asp Leu Asn Glu Cys Ser Trp Ser
        500             505             510
Leu Asn Ile Leu Ala Ile Asn Lys Pro Gln Asn Lys Cys Asp Asp Leu
        515             520             525
Asp Arg Phe Val Met Val Ala Lys Thr Val Pro Asp Asp Ala Lys Gln
    530             535             540
Leu Thr Thr Thr Ile Asn Thr Asn Ala Glu Ala Leu Phe Arg Pro Gly
545             550             555             560
Pro Gly Ser Leu His Leu Lys Asn Gly Pro Glu Ser Ile Met Asn Ser
            565             570             575
Thr Glu Tyr Pro His Gly Gly Ser Gln Gly Gln Leu Leu His Pro Gly
        580             585             590
Asp His Lys Ala Gln Ala His Asn Lys Ala Leu Pro Pro Gly Leu Ser
        595             600             605
Lys Glu Gln Ala Pro Asp Cys Ser Ser Ser Asp Gly Ser Glu Arg Ser
    610             615             620
Trp Met Asp Asp Tyr Asp Tyr Val His Leu Gln Gly Lys Glu Glu Phe
```

```
625                  630                  635                  640
Glu Arg Gln Gln Lys Glu Leu Leu Glu Lys Glu Asn Ile Met Lys Gln
                645                  650                  655
Asn Lys Met Gln Leu Glu His His Gln Leu Ser Gln Phe Gln Leu Leu
            660                  665                  670
Glu Gln Glu Ile Thr Lys Pro Val Glu Asn Asp Ile Ser Lys Trp Lys
            675                  680                  685
Pro Ser Gln Ser Leu Pro Thr Thr Asn Ser Gly Val Ser Ala Gln Asp
        690                  695                  700
Arg Gln Leu Leu Cys Phe Tyr Tyr Asp Gln Cys Glu Thr His Phe Ile
705                  710                  715                  720
Ser Leu Leu Asn Ala Ile Asp Ala Leu Phe Ser Cys Val Ser Ser Ala
                725                  730                  735
Gln Pro Pro Arg Ile Phe Val Ala His Ser Lys Phe Val Ile Leu Ser
                740                  745                  750
Ala His Lys Leu Val Phe Ile Gly Asp Thr Leu Thr Arg Gln Val Thr
            755                  760                  765
Ala Gln Asp Ile Arg Asn Lys Val Met Asn Ser Ser Asn Gln Leu Cys
        770                  775                  780
Glu Gln Leu Lys Thr Ile Val Met Ala Thr Lys Met Ala Ala Leu His
785                  790                  795                  800
Tyr Pro Ser Thr Thr Ala Leu Gln Glu Met Val His Gln Val Thr Asp
                805                  810                  815
Leu Ser Arg Asn Ala Gln Leu Phe Lys Arg Ser Leu Leu Glu Met Ala
            820                  825                  830
Thr Phe
```

```
<210> 113
<211> 3429
<212> DNA
<213> Homo Sapiens

<400> 113
gagacaaagc agcgcccgtc tgcttcgggc ctctggaatt tagcgctcgc ccagctagcc        60
gcagaaatga ctgctgtcca tgcaggcaac ataaacttca agtgggatcc taaaagtcta       120
gagatcagga ctctggcagt tgagagactg ttggagcctc ttgttacaca ggttacaacc       180
cttgtaaaca ccaatagtaa agggccctct aataagaaga gaggtcgttc taagaaggcc       240
catgttttgg ctgcatctgt tgaacaagca actgagaatt tcttggagaa gggggataaa       300
attgcgaagg agagccagtt tctcaaggag gagcttgtgg ctgctgtaga agatgttcga       360
aaacaaggtg atttgatgaa ggctgctgca ggagagttcg cagatgatcc ctgctcttct       420
gtgaagcgag gcaacatggt tcgggcagct cgagctttgc tctctgctgt tacccggttg       480
ctgattttgg ctgacatggc agatgtctac aaattacttg ttcagctgaa agttgtggaa       540
gatggtatct tgaagttgag gaatgctggc aatgaacaag acttaggaat ccagtataaa       600
gccctaaaac ctgaagtgga taagctgaac attatggcag ccaaaagaca acaggaattg       660
aaagatgttg gccatcgtga tcagatggct gcagctagag gaatcctgca gaagaacgtt       720
ccgatcctct atactgcatc ccaggcatgc ctacagcacc ctgatgtcgc agcctataag       780
gccaacaggg acctgatata caagcagctg cagcaggcgg tcacaggcat ttccaatgca       840
gcccaggcca ctgcctcaga cgatgcctca cagcaccagg tggaggagg aggagaactg       900
gcatatgcac tcaataactt tgacaaacaa atcattgtgg accccttgag cttcagcgag       960
gagcgcttta ggccttccct ggaggagcgt ctggaaagca tcattagtgg ggctgccttg      1020
atggccgact cgtcctgcac gcgtgatgac cgtcgtgagc gaattgtggc agagtgtaat      1080
gctgtccgcc aggccctgca ggacctgctt tcggagtaca tgggcaatgc tggacgtaaa      1140
gaaagaagtg atgcactcaa ttctgcaata gataaaatga ccaagaagac cagggacttg      1200
cgtagacagc tccgcaaagc tgtcatggac cacgtttcag attctttcct ggaaaccaat      1260
```

```
gttccacttt tggtattgat tgaagctgca aagaatggaa atgagaaaga agttaaggag    1320
tatgcccaag tttttccgtga acatgccaac aaattgattg aggttgccaa cttggcctgt    1380
tccatctcaa ataatgaaga aggtgtaaag cttgttcgaa tgtctgcaag ccagttagaa    1440
gccctctgtc ctcaggttat taatgctgca ctggctttag cagcaaaacc acagagtaaa    1500
ctgcccaag agaacatgga tcttttaaa gaacaatggg aaaaacaagt ccgtgttctc    1560
acagatgctg tcgatgacat tacttccatt gatgacttct tggctgtctc agagaatcac    1620
attttggaag atgtgaacaa atgtgtcatt gctctccaag agaaggatgt ggatggcctg    1680
gaccgcacag ctggtgcaat tcgaggccgg gcagcccggg tcattcacgt agtcacctca    1740
gagatggaca actatgagcc aggagtctac acagagaagg ttctggaagc cactaagctg    1800
ctctccaaca cagtcatgcc acgtttact gagcaagtag aagcagccgt ggaagccctc    1860
agctcggacc ctgcccagcc catggatgag aatgagttta tcgatgcttc ccgcctggta    1920
tatgatggca tccgggacat caggaaagca gtgctgatga taaggacccc tgaggagttg    1980
gatgactctg actttgagac agaagatttt gatgtcagaa gcaggacgag cgtccagaca    2040
gaagacgatc agctgatagc tggccagagt gcccgggcga tcatggctca gcttcccag    2100
gagcaaaaag cgaagattgc ggaacaggtg gccagcttcc aggaagaaaa gagcaagctg    2160
gatgctgaag tgtccaaatg ggacgacagt ggcaatgaca tcattgtgct ggccaagcag    2220
atgtgcatga ttatgatgga gatgacagac tttacccgag gtaaaggacc actcaaaaat    2280
acatcggatg tcatcagtgc tgccaagaaa attgctgagg caggatccag gatggacaag    2340
cttggccgca ccattgcaga ccattgcccc gactcggctt gcaagcagga cctgctggcc    2400
tacctgcaac gcatcgccct ctactgccac cagctgaaca tctgcagcaa ggtcaaggcc    2460
gaggtgcaga atctcggcgg ggagcttgtt gtctctgggg tggacagcgc catgtccctg    2520
atccaggcag ccaagaactt gatgaatgct gtggtgcaga cagtgaaggc atcctacgtc    2580
gcctctacca aataccaaaa gtcacagggt atggcttccc tcaaccttcc tgctgtgtca    2640
tggaagatga aggcaccaga gaaaaagcca ttggtgaaga gagagaaaca ggatgagaca    2700
cagaccaaga ttaaacgggc atctcagaag aagcacgtga acccggtgca ggccctcagc    2760
gagttcaaag ctatggacag catctaagtc tgcccaggcc ggcgcccccc accctcgggg    2820
gctcctgaat atcagtcact gttcgtcact caaatgaatt gctaaatac aacactgata    2880
ctagattcca cagggaaatg ggcagactga accagtccag gtggtgaatt ttccaagaac    2940
atagtttaag ttgattaaaa atgcttttag aatgcaggag cctacttcta gctgtatttt    3000
ttgtatgctt aaataaaaat aaaaattcat aaccaaagag aatcccacat tagcttgtta    3060
gtaatgctct gaccaagccg agatgcccat tctcttagtg atggcggcgt tagggtttga    3120
gagaagggaa tttggctcaa cttcagttga gagggtgcag tccagacagc ttgactgctt    3180
ttaaatgacc aaagatgacc tgtggtaagc aacctgggca tcttagaagc agtccctgga    3240
gaaggcatgt tcccagaaag gtctctggag ggacaaactc actcagtaaa acataatgta    3300
tcatcatgaa gaaaactgat tctctatgac atgaaatgaa aattttaatg cattgttata    3360
attactaatg tacgctgctg caggacatta ataaagttgc ttttttaggc tacagtgtct    3420
cgatgccat                                                             3429
```

```
        <210> 114
        <211> 906
        <212> PRT
        <213> Homo Sapiens

        <400> 114
Met Thr Ala Val His Ala Gly Asn Ile Asn Phe Lys Trp Asp Pro Lys
1               5                   10                  15
Ser Leu Glu Ile Arg Thr Leu Ala Val Glu Arg Leu Leu Glu Pro Leu
                20                  25                  30
Val Thr Gln Val Thr Thr Leu Val Asn Thr Asn Ser Lys Gly Pro Ser
            35                  40                  45
Asn Lys Lys Arg Gly Arg Ser Lys Lys Ala His Val Leu Ala Ala Ser
        50                  55                  60
Val Glu Gln Ala Thr Glu Asn Phe Leu Glu Lys Gly Asp Lys Ile Ala
65                  70                  75                  80
Lys Glu Ser Gln Phe Leu Lys Glu Glu Leu Val Ala Ala Val Glu Asp
```

```
                     85                  90                  95
Val Arg Lys Gln Gly Asp Leu Met Lys Ala Ala Ala Gly Glu Phe Ala
                100                 105                 110
Asp Asp Pro Cys Ser Ser Val Lys Arg Gly Asn Met Val Arg Ala Ala
                115                 120                 125
Arg Ala Leu Leu Ser Ala Val Thr Arg Leu Leu Ile Leu Ala Asp Met
            130                 135                 140
Ala Asp Val Tyr Lys Leu Leu Val Gln Leu Lys Val Val Glu Asp Gly
145                 150                 155                 160
Ile Leu Lys Leu Arg Asn Ala Gly Asn Glu Gln Asp Leu Gly Ile Gln
                165                 170                 175
Tyr Lys Ala Leu Lys Pro Glu Val Asp Lys Leu Asn Ile Met Ala Ala
            180                 185                 190
Lys Arg Gln Gln Glu Leu Lys Asp Val Gly His Arg Asp Gln Met Ala
        195                 200                 205
Ala Ala Arg Gly Ile Leu Gln Lys Asn Val Pro Ile Leu Tyr Thr Ala
    210                 215                 220
Ser Gln Ala Cys Leu Gln His Pro Asp Val Ala Ala Tyr Lys Ala Asn
225                 230                 235                 240
Arg Asp Leu Ile Tyr Lys Gln Leu Gln Gln Ala Val Thr Gly Ile Ser
                245                 250                 255
Asn Ala Ala Gln Ala Thr Ala Ser Asp Asp Ala Ser Gln His Gln Gly
                260                 265                 270
Gly Gly Gly Gly Glu Leu Ala Tyr Ala Leu Asn Asn Phe Asp Lys Gln
            275                 280                 285
Ile Ile Val Asp Pro Leu Ser Phe Ser Glu Glu Arg Phe Arg Pro Ser
        290                 295                 300
Leu Glu Glu Arg Leu Glu Ser Ile Ile Ser Gly Ala Ala Leu Met Ala
305                 310                 315                 320
Asp Ser Ser Cys Thr Arg Asp Asp Arg Arg Glu Arg Ile Val Ala Glu
                325                 330                 335
Cys Asn Ala Val Arg Gln Ala Leu Gln Asp Leu Leu Ser Glu Tyr Met
            340                 345                 350
Gly Asn Ala Gly Arg Lys Glu Arg Ser Asp Ala Leu Asn Ser Ala Ile
        355                 360                 365
Asp Lys Met Thr Lys Lys Thr Arg Asp Leu Arg Arg Gln Leu Arg Lys
    370                 375                 380
Ala Val Met Asp His Val Ser Asp Ser Phe Leu Glu Thr Asn Val Pro
385                 390                 395                 400
Leu Leu Val Leu Ile Glu Ala Ala Lys Asn Gly Asn Glu Lys Glu Val
                405                 410                 415
Lys Glu Tyr Ala Gln Val Phe Arg Glu His Ala Asn Lys Leu Ile Glu
            420                 425                 430
Val Ala Asn Leu Ala Cys Ser Ile Ser Asn Asn Glu Glu Gly Val Lys
        435                 440                 445
Leu Val Arg Met Ser Ala Ser Gln Leu Glu Ala Leu Cys Pro Gln Val
    450                 455                 460
Ile Asn Ala Ala Leu Ala Leu Ala Ala Lys Pro Gln Ser Lys Leu Ala
465                 470                 475                 480
Gln Glu Asn Met Asp Leu Phe Lys Glu Gln Trp Glu Lys Gln Val Arg
            485                 490                 495
Val Leu Thr Asp Ala Val Asp Asp Ile Thr Ser Ile Asp Asp Phe Leu
        500                 505                 510
Ala Val Ser Glu Asn His Ile Leu Glu Asp Val Asn Lys Cys Val Ile
        515                 520                 525
```

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```
Ala Leu Gln Glu Lys Asp Val Asp Gly Leu Asp Arg Thr Ala Gly Ala
    530                 535                 540
Ile Arg Gly Arg Ala Ala Arg Val Ile His Val Val Thr Ser Glu Met
545                 550                 555                 560
Asp Asn Tyr Glu Pro Gly Val Tyr Thr Glu Lys Val Leu Glu Ala Thr
                565                 570                 575
Lys Leu Leu Ser Asn Thr Val Met Pro Arg Phe Thr Glu Gln Val Glu
                580                 585                 590
Ala Ala Val Glu Ala Leu Ser Ser Asp Pro Ala Gln Pro Met Asp Glu
                595                 600                 605
Asn Glu Phe Ile Asp Ala Ser Arg Leu Val Tyr Asp Gly Ile Arg Asp
    610                 615                 620
Ile Arg Lys Ala Val Leu Met Ile Arg Thr Pro Glu Glu Leu Asp Asp
625                 630                 635                 640
Ser Asp Phe Glu Thr Glu Asp Phe Asp Val Arg Ser Arg Thr Ser Val
                645                 650                 655
Gln Thr Glu Asp Asp Gln Leu Ile Ala Gly Gln Ser Ala Arg Ala Ile
                660                 665                 670
Met Ala Gln Leu Pro Gln Glu Gln Lys Ala Lys Ile Ala Glu Gln Val
    675                 680                 685
Ala Ser Phe Gln Glu Glu Lys Ser Lys Leu Asp Ala Glu Val Ser Lys
    690                 695                 700
Trp Asp Asp Ser Gly Asn Asp Ile Ile Val Leu Ala Lys Gln Met Cys
705                 710                 715                 720
Met Ile Met Met Glu Met Thr Asp Phe Thr Arg Gly Lys Gly Pro Leu
                725                 730                 735
Lys Asn Thr Ser Asp Val Ile Ser Ala Ala Lys Lys Ile Ala Glu Ala
                740                 745                 750
Gly Ser Arg Met Asp Lys Leu Gly Arg Thr Ile Ala Asp His Cys Pro
    755                 760                 765
Asp Ser Ala Cys Lys Gln Asp Leu Leu Ala Tyr Leu Gln Arg Ile Ala
    770                 775                 780
Leu Tyr Cys His Gln Leu Asn Ile Cys Ser Lys Val Lys Ala Glu Val
785                 790                 795                 800
Gln Asn Leu Gly Gly Glu Leu Val Val Ser Gly Val Asp Ser Ala Met
                805                 810                 815
Ser Leu Ile Gln Ala Ala Lys Asn Leu Met Asn Ala Val Val Gln Thr
                820                 825                 830
Val Lys Ala Ser Tyr Val Ala Ser Thr Lys Tyr Gln Lys Ser Gln Gly
    835                 840                 845
Met Ala Ser Leu Asn Leu Pro Ala Val Ser Trp Lys Met Lys Ala Pro
    850                 855                 860
Glu Lys Lys Pro Leu Val Lys Arg Glu Lys Gln Asp Glu Thr Gln Thr
865                 870                 875                 880
Lys Ile Lys Arg Ala Ser Gln Lys Lys His Val Asn Pro Val Gln Ala
                885                 890                 895
Leu Ser Glu Phe Lys Ala Met Asp Ser Ile
                900                 905
```

```
        <210> 115
        <211> 1701
        <212> DNA
        <213> Homo Sapiens

        <400> 115
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```
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gcgggcgcca gcgagaacga gctgaagaag gcatacagaa agttagccaa ggaatatcat   120
cctgataaga atccccaaat gcaggagaca aactttaaag aaataagttt tgcatatgaa   180
gtactatcaa atcctgagaa gcgtgagtta tatgacagat acggagagca aggtcttcgg   240
gaaggcagcg gcggaggtgg gtggcatgga ttgatatttt ctctcaccgt tttttgtggg   300
ggattgttcg gcttcatggg caatcagagt agaagtcgaa atggcagaag aagaggagag   360
gacatgatgc atccactcaa agtatcttta gaagatctgt ataatggcaa gacaaccaaa   420
ctacaactta gcaagaatgt gctctgtagt gcatgcagtg gccaaggcgg aaagtctgga   480
gctgtccaaa agtgtagtgc ttgtcgaggt cgaggtgtgc gcatcatgat cagacagctg   540
gctccaggga tggtacaaca gatgcagtct gtgtgctctg attgtaatgg tgaaggagag   600
gtaattaatg aaaaagaccg ctgtaaaaaa tgtgaaggga agaaggtgat taaagaagtc   660
aagattcttg aagtccacgt agacaaaggc atgaaacatg gacagagaat tacattcact   720
ggggaagcag accaggcccc agagtggaac ccggagacat tgttcttttt gctaccagga   780
gaaaagaaca tggaggtatt tcagagagat gggaatgatt tgcacatgac atataaaata   840
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attgtggtga atacccccc tggcaaagta attgaaccag ggtgtgttcg tgtagttcga   960
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gatgtgcagt ttcctgaaaa caactggatc aacccagaca agctttctga actagaagat  1080
cttctgccat ctagaccgga agttcctaac ataattggag aaacagagga ggtagagctt  1140
caggaatttg atagcactcg aggctcagga ggtggtcaga ggcgtgaagc ctataatgat  1200
agctctgatg aagaaagcag cagccatcat ggacctggag tgcagtgtgc ccatcagtaa  1260
actctgcaaa caaattgcac aggtggattt tctttccaca tttgcctgat ttgttctcag  1320
caatccagct ggagtgtctt atcaatccag atgaactgag ggacatctgt tggtctatgt  1380
ataactttta aaattggtat agtatctaca gagtgtataa tttaaactaa ccacaaagct  1440
ttacatcttc attttgactg ttccatagca gaataaagca cttgaaagga aacaagactc  1500
cctttcacac atggattatt ataagtttca atcctggtat ctgtgcttga ttttttatcag  1560
ttttgtgtag atttttatgt ttcatatttt aaatttaaat cccacattgt aaagtttgta  1620
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```

```
<210> 116
<211> 415
<212> PRT
<213> Homo Sapiens

<400> 116
```

Met	Ala	Asn	Val	Ala	Asp	Thr	Lys	Leu	Tyr	Asp	Ile	Leu	Gly	Val	Pro
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Ala	Gly	Ala	Ser	Glu	Asn	Glu	Leu	Lys	Lys	Ala	Tyr	Arg	Lys	Leu	Ala
			20					25					30		
Lys	Glu	Tyr	His	Pro	Asp	Lys	Asn	Pro	Gln	Met	Gln	Glu	Thr	Asn	Phe
		35				40					45				
Lys	Glu	Ile	Ser	Phe	Ala	Tyr	Glu	Val	Leu	Ser	Asn	Pro	Glu	Lys	Arg
	50					55					60				
Glu	Leu	Tyr	Asp	Arg	Tyr	Gly	Glu	Gln	Gly	Leu	Arg	Glu	Gly	Ser	Gly
65					70					75					80
Gly	Gly	Gly	Trp	His	Gly	Leu	Ile	Phe	Ser	Leu	Thr	Val	Phe	Cys	Gly
				85					90					95	
Gly	Leu	Phe	Gly	Phe	Met	Gly	Asn	Gln	Ser	Arg	Ser	Arg	Asn	Gly	Arg
			100					105					110		
Arg	Arg	Gly	Glu	Asp	Met	Met	His	Pro	Leu	Lys	Val	Ser	Leu	Glu	Asp
		115					120					125			
Leu	Tyr	Asn	Gly	Lys	Thr	Thr	Lys	Leu	Gln	Leu	Ser	Lys	Asn	Val	Leu
	130					135					140				
Cys	Ser	Ala	Cys	Ser	Gly	Gln	Gly	Gly	Lys	Ser	Gly	Ala	Val	Gln	Lys

```
      145                  150                  155                  160
Cys Ser Ala Cys Arg Gly Arg Gly Val Arg Ile Met Ile Arg Gln Leu
                    165                  170                  175
Ala Pro Gly Met Val Gln Gln Met Gln Ser Val Cys Ser Asp Cys Asn
                180                  185                  190
Gly Glu Gly Glu Val Ile Asn Glu Lys Asp Arg Cys Lys Lys Cys Glu
            195                  200                  205
Gly Lys Lys Val Ile Lys Glu Val Lys Ile Leu Glu Val His Val Asp
    210                  215                  220
Lys Gly Met Lys His Gly Gln Arg Ile Thr Phe Thr Gly Glu Ala Asp
225                  230                  235                  240
Gln Ala Pro Glu Trp Asn Pro Glu Thr Leu Phe Phe Leu Leu Pro Gly
                245                  250                  255
Glu Lys Asn Met Glu Val Phe Gln Arg Asp Gly Asn Asp Leu His Met
            260                  265                  270
Thr Tyr Lys Ile Gly Leu Val Glu Ala Leu Cys Gly Phe Gln Phe Thr
            275                  280                  285
Leu Ser His Leu Asp Gly Arg Gln Ile Val Val Lys Tyr Pro Pro Gly
        290                  295                  300
Lys Val Ile Glu Pro Gly Cys Val Arg Val Val Arg Gly Glu Gly Met
305                  310                  315                  320
Pro Gln Tyr Arg Asn Pro Phe Glu Lys Gly Gly Leu Tyr Ile Lys Phe
                325                  330                  335
Asp Val Gln Phe Pro Glu Asn Asn Trp Ile Asn Pro Asp Lys Leu Ser
            340                  345                  350
Glu Leu Glu Asp Leu Leu Pro Ser Arg Pro Glu Val Pro Asn Ile Ile
        355                  360                  365
Gly Glu Thr Glu Glu Val Glu Leu Gln Glu Phe Asp Ser Thr Arg Gly
    370                  375                  380
Ser Gly Gly Gly Gln Arg Arg Glu Ala Tyr Asn Asp Ser Ser Asp Glu
385                  390                  395                  400
Glu Ser Ser Ser His His Gly Pro Gly Val Gln Cys Ala His Gln
                405                  410                  415
```

```
    <210> 117
    <211> 1821
    <212> DNA
    <213> Homo Sapiens

    <400> 117
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tgcccagatg ctcaaggagg gagcgaaaca cttttcagga ttagaagagg ctgtgtatag   120
aaacatacaa gcttgcaagg agcttgccca aaccactcgt acagcatatg gaccaaaagg   180
aatgaacaaa atggttatca accacttgga gaagttgttt gtgacaaacg atgcagcaac   240
tattttaaga gaactagaag tacagcatcc tgctgcaaaa atgattgtaa tggcttctca   300
tatgcaagag caagaagttg gagatggcac aaactttgtt ctggtatttg ctggagctct   360
cctggaatta gctgaagaac ttctgaggat tggcctgtca gtttcagagg tcatagaagg   420
ttatgaaata gcctgcagaa aagctcatga gattcttcct aatttggtat gttgttctgc   480
aaaaaacctt cgagatattg atgaagtctc atctctactt cgtacctcca taatgagtaa   540
acaatatggt aatgaagtat ttctggccaa gcttattgct caggcatgcg tatctatttt   600
tcctgattcc ggccatttca atgttgataa catcagagtt tgtaaaattc tgggctctgg   660
tatcagttcc tcttcagtat tgcatggcat ggttttaag aaggaaaccg aaggtgatgt   720
aacatctgtc aaagatgcaa aaatagcagt gtactcttgt ccttttgatg gcatgataac   780
agaaactaag ggaacagtgt tgataaagac tgctgaagaa ttgatgaatt ttagtaaggg   840
agaagaaaac ctcatggatg cacaagtcaa agctattgct gatactggtg caaatgtcgt   900
```

-85-

```
agtaacaggt  ggcaaagtgg  cagacatggc  tcttcattat  gcaaataaat  ataatatcat    960
gttagtgagg  ctaaactcaa  aatgggatct  ccgaagactt  tgtaaaactg  ttggtgctac   1020
agctcttcct  agattgacac  ctcctgtcct  tgaagaaatg  ggacactgtg  acagtgttta   1080
cctctcagaa  gttggagata  ctcaggtggt  ggtttttaag  catgaaaagg  aagatggcgc   1140
catttctacc  atagtacttc  gaggctctac  agacaatctg  atggatgaca  tagaaagggt   1200
agtagacgat  ggtgttaata  ctttcaaagt  tcttacaagg  gataaacgtc  ttgtacccgg   1260
aggtggagca  acagaaattg  aattagccaa  acagatcaca  tcatatggag  agacatgtcc   1320
tggacttgaa  cagtatgcta  ttaagaagtt  tgctgaggca  tttgaagcta  ttccccgcgc   1380
actggcagaa  aactctggag  ttaaggccaa  tgaagtaatc  tctaaacttt  atgcagtaca   1440
tcaagaagga  aataaaaacg  ttggattaga  tattgaggct  gaagtccctg  ctgtaaagga   1500
catgctggaa  gctggtattc  tagatactta  cctgggaaaa  tattgggcta  tcaaactcgc   1560
tactaatgct  gcagtcactg  tacttagagt  ggatcagatc  atcatggcaa  aaccagctgg   1620
tgggcccaag  cctccaagtg  ggaagaaaga  ctgggatgat  gaccaaaatg  attgaaattg   1680
gcttaatttt  tactgtaggt  gaaggctgta  tttgtagtag  tactcaagaa  tcacctgatg   1740
ttttcttatt  ctccttaaat  taagagttat  tttgtgtttg  tattcttggc  tggatgttat   1800
aataaacata  ttgttactgt  c                                               1821
```

```
        <210> 118
        <211> 548
        <212> PRT
        <213> Homo Sapiens


        <400> 118
Met Ala Leu His Val Pro Lys Ala Pro Gly Phe Ala Gln Met Leu Lys
1               5                   10                  15
Glu Gly Ala Lys His Phe Ser Gly Leu Glu Glu Ala Val Tyr Arg Asn
                20                  25                  30
Ile Gln Ala Cys Lys Glu Leu Ala Gln Thr Thr Arg Thr Ala Tyr Gly
            35                  40                  45
Pro Lys Gly Met Asn Lys Met Val Ile Asn His Leu Glu Lys Leu Phe
        50                  55                  60
Val Thr Asn Asp Ala Ala Thr Ile Leu Arg Glu Leu Glu Val Gln His
65                  70                  75                  80
Pro Ala Ala Lys Met Ile Val Met Ala Ser His Met Gln Glu Gln Glu
                85                  90                  95
Val Gly Asp Gly Thr Asn Phe Val Leu Val Phe Ala Gly Ala Leu Leu
                100                 105                 110
Glu Leu Ala Glu Glu Leu Leu Arg Ile Gly Leu Ser Val Ser Glu Val
            115                 120                 125
Ile Glu Gly Tyr Glu Ile Ala Cys Arg Lys Ala His Glu Ile Leu Pro
        130                 135                 140
Asn Leu Val Cys Cys Ser Ala Lys Asn Leu Arg Asp Ile Asp Glu Val
145                 150                 155                 160
Ser Ser Leu Leu Arg Thr Ser Ile Met Ser Lys Gln Tyr Gly Asn Glu
                165                 170                 175
Val Phe Leu Ala Lys Leu Ile Ala Gln Ala Cys Val Ser Ile Phe Pro
                180                 185                 190
Asp Ser Gly His Phe Asn Val Asp Asn Ile Arg Val Cys Lys Ile Leu
            195                 200                 205
Gly Ser Gly Ile Ser Ser Ser Ser Val Leu His Gly Met Val Phe Lys
        210                 215                 220
Lys Glu Thr Glu Gly Asp Val Thr Ser Val Lys Asp Ala Lys Ile Ala
225                 230                 235                 240
Val Tyr Ser Cys Pro Phe Asp Gly Met Ile Thr Glu Thr Lys Gly Thr
                245                 250                 255
```

```
Val Leu Ile Lys Thr Ala Glu Glu Leu Met Asn Phe Ser Lys Gly Glu
            260                 265                 270
Glu Asn Leu Met Asp Ala Gln Val Lys Ala Ile Ala Asp Thr Gly Ala
            275                 280                 285
Asn Val Val Val Thr Gly Gly Lys Val Ala Asp Met Ala Leu His Tyr
            290                 295                 300
Ala Asn Lys Tyr Asn Ile Met Leu Val Arg Leu Asn Ser Lys Trp Asp
305                 310                 315                 320
Leu Arg Arg Leu Cys Lys Thr Val Gly Ala Thr Ala Leu Pro Arg Leu
                325                 330                 335
Thr Pro Pro Val Leu Glu Glu Met Gly His Cys Asp Ser Val Tyr Leu
                340                 345                 350
Ser Glu Val Gly Asp Thr Gln Val Val Val Phe Lys His Glu Lys Glu
            355                 360                 365
Asp Gly Ala Ile Ser Thr Ile Val Leu Arg Gly Ser Thr Asp Asn Leu
            370                 375                 380
Met Asp Asp Ile Glu Arg Val Val Asp Asp Gly Val Asn Thr Phe Lys
385                 390                 395                 400
Val Leu Thr Arg Asp Lys Arg Leu Val Pro Gly Gly Gly Ala Thr Glu
                405                 410                 415
Ile Glu Leu Ala Lys Gln Ile Thr Ser Tyr Gly Glu Thr Cys Pro Gly
            420                 425                 430
Leu Glu Gln Tyr Ala Ile Lys Lys Phe Ala Glu Ala Phe Glu Ala Ile
            435                 440                 445
Pro Arg Ala Leu Ala Glu Asn Ser Gly Val Lys Ala Asn Glu Val Ile
            450                 455                 460
Ser Lys Leu Tyr Ala Val His Gln Glu Gly Asn Lys Asn Val Gly Leu
465                 470                 475                 480
Asp Ile Glu Ala Glu Val Pro Ala Val Lys Asp Met Leu Glu Ala Gly
                485                 490                 495
Ile Leu Asp Thr Tyr Leu Gly Lys Tyr Trp Ala Ile Lys Leu Ala Thr
                500                 505                 510
Asn Ala Ala Val Thr Val Leu Arg Val Asp Gln Ile Ile Met Ala Lys
            515                 520                 525
Pro Ala Gly Gly Pro Lys Pro Pro Ser Gly Lys Lys Asp Trp Asp Asp
            530                 535                 540
Asp Gln Asn Asp
545
```

```
        <210> 119
        <211> 1321
        <212> DNA
        <213> Homo Sapiens

        <400> 119
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tccaggagaa ggtgttcaag ggcttggacc tccttgagaa ggctgccgaa atgttatcgc       180
agctcgactt gttcagccga aatgaagatt tggaagagat tgcttccacc gacctgaagt       240
accttttggt gccagcgttt caaggagccc tcaccatgaa acaagtcaac cccagcaagc       300
gtctagatca tttgcagcgg gctcgagaac actttataaa ctacttaact cagtgccatt       360
gctatcatgt ggcagagttt gagctgccca aaaccatgaa caactctgct gaaaatcaca       420
ctgccaattc ctccatggct tatcctagtc tcgttgctat ggcatctcaa agacaggcta       480
aaatacagag atacaagcag aagaaggagt tggagcatag gttgtctgca atgaaatctg       540
ctgtggaaag tggtcaagca gatgatgagc gtgttcgtga atattatctt cttcaccttc       600
```

```
agaggtggat tgatatcagc ttagaagaga ttgagagcat tgaccaggaa ataaagatcc    660
tgagagaaag agactcttca agagaggcat caacttctaa ctcatctcgc caggagaggc    720
ctccagtgaa acccttcatt ctcactcgga acatggctca agccaaagta tttggagctg    780
gttatccaag tctgccaact atgacggtga gtgactggta tgagcaacat cggaaatatg    840
gagcattacc ggatcaggga atagccaagg cagcaccaga ggaattcaga aaagcagctc    900
agcaacagga agaacaagaa gaaaaggagg aagaggatga tgaacaaaca ctccacagag    960
cccgggagtg ggatgactgg aaggacaccc atcctagggg ctatggaac cgacagaaca   1020
tgggctgatc ttcccacaac accacaggac tgcaggtgc acaactccct gccaaggaaa    1080
accatgcagt cctcccctcc ctggtctcct gcttcagctc tgtacaacga gggcaaagat   1140
gctaaatctt gctttgcatt cagtaaagtg tcaagtgatt aagtgtgtat ttgtaccca    1200
gatgatatga accagcagtc ttgtttggc atcatcctca tcatgttgta ttccagcttc    1260
ttaagtggaa ggaaaagagt gctgagaaat ggctctgtat aatctatggc tatccgaatt   1320
c                                                                   1321
```

```
       <210> 120
       <211> 339
       <212> PRT
       <213> Homo Sapiens

       <400> 120
Met Ala Ala Glu Asp Glu Leu Gln Leu Pro Arg Leu Pro Glu Leu Phe
1                5                  10                  15
Glu Thr Gly Arg Gln Leu Leu Asp Glu Val Glu Val Ala Thr Glu Pro
            20                  25                  30
Ala Gly Ser Arg Ile Val Gln Glu Lys Val Phe Lys Gly Leu Asp Leu
        35                  40                  45
Leu Glu Lys Ala Ala Glu Met Leu Ser Gln Leu Asp Leu Phe Ser Arg
        50                  55                  60
Asn Glu Asp Leu Glu Glu Ile Ala Ser Thr Asp Leu Lys Tyr Leu Leu
65                  70                  75                  80
Val Pro Ala Phe Gln Gly Ala Leu Thr Met Lys Gln Val Asn Pro Ser
                85                  90                  95
Lys Arg Leu Asp His Leu Gln Arg Ala Arg Glu His Phe Ile Asn Tyr
            100                 105                 110
Leu Thr Gln Cys His Cys Tyr His Val Ala Glu Phe Glu Leu Pro Lys
        115                 120                 125
Thr Met Asn Asn Ser Ala Glu Asn His Thr Ala Asn Ser Ser Met Ala
    130                 135                 140
Tyr Pro Ser Leu Val Ala Met Ala Ser Gln Arg Gln Ala Lys Ile Gln
145                 150                 155                 160
Arg Tyr Lys Gln Lys Lys Glu Leu Glu His Arg Leu Ser Ala Met Lys
            165                 170                 175
Ser Ala Val Glu Ser Gly Gln Ala Asp Asp Glu Arg Val Arg Glu Tyr
            180                 185                 190
Tyr Leu Leu His Leu Gln Arg Trp Ile Asp Ile Ser Leu Glu Glu Ile
        195                 200                 205
Glu Ser Ile Asp Gln Glu Ile Lys Ile Leu Arg Glu Arg Asp Ser Ser
    210                 215                 220
Arg Glu Ala Ser Thr Ser Asn Ser Ser Arg Gln Glu Arg Pro Pro Val
225                 230                 235                 240
Lys Pro Phe Ile Leu Thr Arg Asn Met Ala Gln Ala Lys Val Phe Gly
            245                 250                 255
Ala Gly Tyr Pro Ser Leu Pro Thr Met Thr Val Ser Asp Trp Tyr Glu
            260                 265                 270
Gln His Arg Lys Tyr Gly Ala Leu Pro Asp Gln Gly Ile Ala Lys Ala
```

```
          275                 280                 285
Ala Pro Glu Glu Phe Arg Lys Ala Ala Gln Gln Gln Glu Glu Gln Glu
      290                 295                 300
Glu Lys Glu Glu Glu Asp Asp Glu Gln Thr Leu His Arg Ala Arg Glu
  305                 310                 315                 320
Trp Asp Asp Trp Lys Asp Thr His Pro Arg Gly Tyr Gly Asn Arg Gln
              325                 330                 335
Asn Met Gly
```

```
<210> 121
<211> 2965
<212> DNA
<213> Homo Sapiens

<400> 121
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ccttagcgtt cctctctggg cggcggcggc ggcggctcgg ttgacgcctc ctccgccagc  120
tgagcccgcg ggagcccagg acgccgcttc cccgcccatc cccgctcccc gaggccggcc  180
gcctggtcat ggcgcagccg ggcccggctt cccagcctga cgtttctctt cagcaacggg  240
tagcagaatt ggaaaaaatt aatgcagaat ttttacgtgc acaacagcag cttgaacaag  300
aatttaatca aaagagagca aaatttaagg agttatattt ggctaaagag gaggatctga  360
agaggcaaaa tgcagtatta caagctgcac aagatgattt gggacacctt cgaacccagc  420
tgtgggaagc tcaagcagag atggagaata ttaaggcgat tgccacagtc tctgagaaca  480
ccaagcaaga agctatagat gaagtgaaaa gacagtggag agaagaagtt gcttcacttc  540
aggctgttat gaaagaaaca gttcgtgact atgagcacca gttccacctt aggctggagc  600
aggagcgaac acagtgggca cagtatagag aatacgcaga gagggaaata gctgatttaa  660
gaagaaggct gtctgaaggt caagaggagg aaaatttaga aaatgaaatg aaaaaggccc  720
aagaggatgc tgagaaactt cggtccgttg tgatgccaat ggaaaaggaa attgcagctt  780
tgaaggataa actgacagag gctgaagaca aaattaaaga gctggaggcc tcaaaggtta  840
aagaactgaa tcattatctg gaagctgaga aatcttgtag gactgatcta gagatgtatg  900
tagctgtttt gaatactcag aaatctgttc tacaggaaga tgctgagaaa ctgcggaaag  960
aattgcatga agtttgccat ctcttggagc aagagcgaca acaacacaac cagttaaaac 1020
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ttaaagatgg actcaggaga gcacagtcta cagacagctt gggaacctcg ggctcattgc 1440
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cgatgacacc agaacaagaa gagacagcgt ccctcctctc cagcgttacc cagggcatgg 1680
agagtgccta tgtgtcccct agtggttatc gtttagttag tgaaacagaa tggaatctct 1740
tgcagaaaga ggtacataat gctggaaata aacttggtag acgttgtgat atgtgttcca 1800
attacgaaaa acagttacaa ggaattcaga ttcaggaggc tgaaacgaga accaggtga 1860
aaaaactaca gctgatgcta aggcaagcta tgaccagtt agagaagaca atgaaagata 1920
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cccaggcaaa gagggatgtt caggaacaga tggcggtgct gatgcagtca cgggaacagg 2100
tttcagaaga gctggtgagg ttacagaaag ataatgacag tctccaggga aagcacagcc 2160
tgcatgtgtc attacagcaa gcagaagact tcatcctccc agacactaca gaggcactgc 2220
gggagttggt attaaaatac cgtgaggaca tcattaatgt gcggacagca gcagaccacg 2280
tagaagaaaa gctgaaggct gagatacttt tcctaaaaga gcagatccaa gcagaacagt 2340
```

```
gtttaaaaga aaatcttgaa gaaactctgc aactagaaat agaaaactgc aaggaggaaa    2400
tagcttctat ttctagccta aaagctgaat tagaaagaat aaaagtggaa aaaggacagt    2460
tggagtccac attaagagag aagtctcaac agcttgagag tcttcaggaa ataaagatca    2520
gtttggaaga gcagttaaag aaagagactg ctgctaaggc taccgttgaa cagctaatgt    2580
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agcttcctga gacatgacac cctcatggca ggattctagc ctgcactttg ggttttttaac    2820
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caaaaggaag actggagaaa tgcttacttc tagagggaga agactgtgcg gcacaggaaa    2940
cagcaaacag tggggtgatc tgcag                                          2965
```

```
        <210> 122
        <211> 862
        <212> PRT
        <213> Homo Sapiens

        <400> 122
Met Ala Gln Pro Gly Pro Ala Ser Gln Pro Asp Val Ser Leu Gln Gln
1               5                   10                  15
Arg Val Ala Glu Leu Glu Lys Ile Asn Ala Glu Phe Leu Arg Ala Gln
            20                  25                  30
Gln Gln Leu Glu Gln Glu Phe Asn Gln Lys Arg Ala Lys Phe Lys Glu
        35                  40                  45
Leu Tyr Leu Ala Lys Glu Glu Asp Leu Lys Arg Gln Asn Ala Val Leu
    50                  55                  60
Gln Ala Ala Gln Asp Asp Leu Gly His Leu Arg Thr Gln Leu Trp Glu
65                  70                  75                  80
Ala Gln Ala Glu Met Glu Asn Ile Lys Ala Ile Ala Thr Val Ser Glu
                85                  90                  95
Asn Thr Lys Gln Glu Ala Ile Asp Glu Val Lys Arg Gln Trp Arg Glu
            100                 105                 110
Glu Val Ala Ser Leu Gln Ala Val Met Lys Glu Thr Val Arg Asp Tyr
        115                 120                 125
Glu His Gln Phe His Leu Arg Leu Glu Gln Glu Arg Thr Gln Trp Ala
    130                 135                 140
Gln Tyr Arg Glu Tyr Ala Glu Arg Glu Ile Ala Asp Leu Arg Arg Arg
145                 150                 155                 160
Leu Ser Glu Gly Gln Glu Glu Glu Asn Leu Glu Asn Glu Met Lys Lys
                165                 170                 175
Ala Gln Glu Asp Ala Glu Lys Leu Arg Ser Val Val Met Pro Met Glu
            180                 185                 190
Lys Glu Ile Ala Ala Leu Lys Asp Lys Leu Thr Glu Ala Glu Asp Lys
        195                 200                 205
Ile Lys Glu Leu Glu Ala Ser Lys Val Lys Glu Leu Asn His Tyr Leu
    210                 215                 220
Glu Ala Glu Lys Ser Cys Arg Thr Asp Leu Glu Met Tyr Val Ala Val
225                 230                 235                 240
Leu Asn Thr Gln Lys Ser Val Leu Gln Glu Asp Ala Glu Lys Leu Arg
                245                 250                 255
Lys Glu Leu His Glu Val Cys His Leu Leu Glu Gln Glu Arg Gln Gln
            260                 265                 270
His Asn Gln Leu Lys His Thr Trp Gln Lys Ala Asn Asp Gln Phe Leu
        275                 280                 285
Glu Ser Gln Arg Leu Leu Met Arg Asp Met Gln Arg Met Glu Ile Val
```

```
                  290                    295                    300
Leu Thr Ser Glu Gln Leu Arg Gln Val Glu Glu Leu Lys Lys Lys Asp
305                    310                    315                    320
Gln Glu Asp Asp Glu Gln Gln Arg Leu Asn Lys Arg Lys Asp His Lys
                  325                    330                    335
Lys Ala Asp Val Glu Glu Glu Ile Lys Ile Pro Val Val Cys Ala Leu
                  340                    345                    350
Thr Gln Glu Glu Ser Ser Ala Gln Leu Ser Asn Glu Glu Glu His Leu
                  355                    360                    365
Asp Ser Thr Arg Gly Ser Val His Ser Leu Asp Ala Gly Leu Leu Leu
370                    375                    380
Pro Ser Gly Asp Pro Phe Ser Lys Ser Asp Asn Asp Met Phe Lys Asp
385                    390                    395                    400
Gly Leu Arg Arg Ala Gln Ser Thr Asp Ser Leu Gly Thr Ser Gly Ser
                  405                    410                    415
Leu Gln Ser Lys Ala Leu Gly Tyr Asn Tyr Lys Ala Lys Ser Ala Gly
                  420                    425                    430
Asn Leu Asp Glu Ser Asp Phe Gly Pro Leu Val Gly Ala Asp Ser Val
                  435                    440                    445
Ser Glu Asn Phe Asp Thr Ala Ser Leu Gly Ser Leu Gln Met Pro Ser
                  450                    455                    460
Gly Phe Met Leu Thr Lys Asp Gln Glu Arg Ala Ile Lys Ala Met Thr
465                    470                    475                    480
Pro Glu Gln Glu Glu Thr Ala Ser Leu Leu Ser Ser Val Thr Gln Gly
                  485                    490                    495
Met Glu Ser Ala Tyr Val Ser Pro Ser Gly Tyr Arg Leu Val Ser Glu
                  500                    505                    510
Thr Glu Trp Asn Leu Leu Gln Lys Glu Val His Asn Ala Gly Asn Lys
                  515                    520                    525
Leu Gly Arg Arg Cys Asp Met Cys Ser Asn Tyr Glu Lys Gln Leu Gln
                  530                    535                    540
Gly Ile Gln Ile Gln Glu Ala Glu Thr Arg Asp Gln Val Lys Lys Leu
545                    550                    555                    560
Gln Leu Met Leu Arg Gln Ala Asn Asp Gln Leu Glu Lys Thr Met Lys
                  565                    570                    575
Asp Lys Gln Glu Leu Glu Asp Phe Ile Lys Gln Ser Ser Glu Asp Ser
                  580                    585                    590
Ser His Gln Ile Ser Ala Leu Val Leu Arg Ala Gln Ala Ser Glu Ile
                  595                    600                    605
Leu Leu Glu Glu Leu Gln Gln Gly Leu Ser Gln Ala Lys Arg Asp Val
                  610                    615                    620
Gln Glu Gln Met Ala Val Leu Met Gln Ser Arg Glu Gln Val Ser Glu
625                    630                    635                    640
Glu Leu Val Arg Leu Gln Lys Asp Asn Asp Ser Leu Gln Gly Lys His
                  645                    650                    655
Ser Leu His Val Ser Leu Gln Gln Ala Glu Asp Phe Ile Leu Pro Asp
                  660                    665                    670
Thr Thr Glu Ala Leu Arg Glu Leu Val Leu Lys Tyr Arg Glu Asp Ile
                  675                    680                    685
Ile Asn Val Arg Thr Ala Ala Asp His Val Glu Glu Lys Leu Lys Ala
                  690                    695                    700
Glu Ile Leu Phe Leu Lys Glu Gln Ile Gln Ala Glu Gln Cys Leu Lys
705                    710                    715                    720
Glu Asn Leu Glu Glu Thr Leu Gln Leu Glu Ile Glu Asn Cys Lys Glu
                  725                    730                    735
```

```
Glu Ile Ala Ser Ile Ser Ser Leu Lys Ala Glu Leu Glu Arg Ile Lys
        740                 745                 750
Val Glu Lys Gly Gln Leu Glu Ser Thr Leu Arg Glu Lys Ser Gln Gln
        755                 760                 765
Leu Glu Ser Leu Gln Glu Ile Lys Ile Ser Leu Glu Glu Gln Leu Lys
        770                 775                 780
Lys Glu Thr Ala Ala Lys Ala Thr Val Glu Gln Leu Met Phe Glu Glu
785                 790                 795                 800
Lys Asn Lys Ala Gln Arg Leu Gln Thr Glu Leu Asp Val Ser Glu Gln
                805                 810                 815
Val Gln Arg Asp Phe Val Lys Leu Ser Gln Thr Leu Gln Val Gln Leu
        820                 825                 830
Glu Arg Ile Arg Gln Ala Asp Ser Leu Glu Arg Ile Arg Ala Ile Leu
        835                 840                 845
Asn Asp Thr Lys Leu Thr Asp Ile Asn Gln Leu Pro Glu Thr
        850                 855                 860
```

```
        <210> 123
        <211> 544
        <212> DNA
        <213> Homo Sapiens

        <400> 123
gggagtggcg tggcgcaggg atggcacaaa agaaatatct tcaagcaaaa ttgacccagt      60
ttttaaggga agacaggatt caactttgga aacctccata tacagatgaa aataaaaaag     120
ttggtttggc attaaaggac cttgctaagc agtactctga cagactagaa tgctgtgaaa     180
atgaagtaga aaaggtaata gaagaaatac gttgcaaggc aattgagcgt ggaacaggaa     240
atgacaatta tagaacaacg ggaattgcta caatcgaggt gtttttacca ccaagactaa     300
aaaaagatag gaaaaacttg ttggagaccc gattgcacat cactggcaga gaactgaggt     360
ccaaaatagc tgaaaccttt ggacttcaag aanattatat caaaattgtc ataaataaga     420
agcaactacn actagggaaa acccttgaag ancaaggcgt ggctcacaat gtgaaagcga     480
tggtgcttga actaaaacaa tctgaagagg acgcgaggaa aaacttccag ttagaggaag     540
agga                                                                  544

        <210> 124
        <211> 178
        <212> PRT
        <213> Homo Sapiens

        <400> 124
Glu Trp Arg Gly Ala Gly Met Ala Gln Lys Lys Tyr Leu Gln Ala Lys
1                   5                   10                  15
Leu Thr Gln Phe Leu Arg Glu Asp Arg Ile Gln Leu Trp Lys Pro Pro
        20                  25                  30
Tyr Thr Asp Glu Asn Lys Lys Val Gly Leu Ala Leu Lys Asp Leu Ala
        35                  40                  45
Lys Gln Tyr Ser Asp Arg Leu Glu Cys Cys Glu Asn Glu Val Glu Lys
        50                  55                  60
Val Ile Glu Glu Ile Arg Cys Lys Ala Ile Glu Arg Gly Thr Gly Asn
65                  70                  75                  80
Asp Asn Tyr Arg Thr Thr Gly Ile Ala Thr Ile Glu Val Phe Leu Pro
                85                  90                  95
Pro Arg Leu Lys Lys Asp Arg Lys Asn Leu Leu Glu Thr Arg Leu His
                100                 105                 110
Ile Thr Gly Arg Glu Leu Arg Ser Lys Ile Ala Glu Thr Phe Gly Leu
```

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```
            115                    120                    125
Gln Glu Tyr Ile Lys Ile Val Ile Asn Lys Lys Gln Leu Leu Gly Lys
        130                    135                    140
Thr Leu Glu Gln Gly Val Ala His Asn Val Lys Ala Met Val Leu Glu
145                    150                    155                    160
Leu Lys Gln Ser Glu Glu Asp Ala Arg Lys Asn Phe Gln Leu Glu Glu
                    165                    170                    175
Glu Glu
```

```
        <210> 125
        <211> 1302
        <212> DNA
        <213> Homo Sapiens

        <400> 125
        atggaggtgg tggacccgca gcagctgggc atgttcacgg agggcgagct gatgtcggtg      60
        ggtatggaca cgttcatcca ccgcatcgac tccaccgagg tcatctacca gccgcgccgc     120
        aagcgggcca agctcatcgg caagtacctg atgggggacc tgctggggga aggctcttac     180
        ggcaaggtga aggaggtgct ggactcggag acgctgtgca ggagggccgt caagatcctc     240
        aagaagaaga agttgcgaag gatccccaac ggggaggcca acgtgaagaa ggaaattcaa     300
        ctactgagga ggttacggca caaaaatgtc atccagctgg tggatgtgtt atacaacgaa     360
        gagaagcaga aaatgtatat ggtgatggag tactgcgtgt gtggcatgca ggaaatgctg     420
        gacagcgtgc cggagaagcg tttcccagtg tgccaggccc acgggtactt ctgtcagctg     480
        attgacggcc tggagtacct gcatagccag ggcattgtgc acaaggacat caagccgggg     540
        aacctgctgc tcaccaccgg tggcaccctc aaaatctccg acctgggcgt ggccgaggca     600
        ctgcacccgt cgcggcgga cgacacctgc cggaccagcc agggctcccc ggctttccag     660
        ccgcccgaga ttgccaacgg cctggacacc ttctccggct tcaaggtgga catctggtcg     720
        gctgggggtca ccctctacaa catcaccacg ggtctgtacc ccttcgaagg ggacaacatc     780
        tacaagttgt ttgagaacat cgggaagggg agctacgcca tcccgggcga ctgtggcccc     840
        ccgctctctg acctgctgaa agggatgctt gagtacgaac cggccaagag gttctccatc     900
        cggcagatcc ggcagcacag ctggttccgg aagaaacatc ctccggctga agcaccagtg     960
        cccatcccac cgagcccaga caccaaggac cggtggcgca gcatgactgt ggtgccgtac    1020
        ttggaggacc tgcacggcgc ggacgaggac gaggacctct cgacatcga ggatgacatc    1080
        atctacactc aggacttcac ggtgcccgga caggtcccag aagaggaggc cagtcacaat    1140
        ggacagcgcc ggggcctccc caaggccgtg tgtatgaacg gcacagaggc ggcgcagctg    1200
        agcaccaaat ccagggcgga gggccgggcc cccaaccctg cccgcaaggc ctgctccgcc    1260
        agcagcaaga tccgccggct gtcggcctgc aagcagcagt ga                       1302
```

```
        <210> 126
        <211> 433
        <212> PRT
        <213> Homo Sapiens

        <400> 126
Met Glu Val Val Asp Pro Gln Gln Leu Gly Met Phe Thr Glu Gly Glu
1                   5                  10                  15
Leu Met Ser Val Gly Met Asp Thr Phe Ile His Arg Ile Asp Ser Thr
                20                  25                  30
Glu Val Ile Tyr Gln Pro Arg Arg Lys Arg Ala Lys Leu Ile Gly Lys
            35                  40                  45
Tyr Leu Met Gly Asp Leu Leu Gly Glu Gly Ser Tyr Gly Lys Val Lys
        50                  55                  60
Glu Val Leu Asp Ser Glu Thr Leu Cys Arg Arg Ala Val Lys Ile Leu
65                  70                  75                  80
```

```
Lys Lys Lys Lys Leu Arg Arg Ile Pro Asn Gly Glu Ala Asn Val Lys
            85              90              95
Lys Glu Ile Gln Leu Leu Arg Arg Leu Arg His Lys Asn Val Ile Gln
            100             105             110
Leu Val Asp Val Leu Tyr Asn Glu Glu Lys Gln Lys Met Tyr Met Val
            115             120             125
Met Glu Tyr Cys Val Cys Gly Met Gln Glu Met Leu Asp Ser Val Pro
130             135             140
Glu Lys Arg Phe Pro Val Cys Gln Ala His Gly Tyr Phe Cys Gln Leu
145             150             155             160
Ile Asp Gly Leu Glu Tyr Leu His Ser Gln Gly Ile Val His Lys Asp
            165             170             175
Ile Lys Pro Gly Asn Leu Leu Leu Thr Thr Gly Gly Thr Leu Lys Ile
            180             185             190
Ser Asp Leu Gly Val Ala Glu Ala Leu His Pro Phe Ala Ala Asp Asp
            195             200             205
Thr Cys Arg Thr Ser Gln Gly Ser Pro Ala Phe Gln Pro Pro Glu Ile
210             215             220
Ala Asn Gly Leu Asp Thr Phe Ser Gly Phe Lys Val Asp Ile Trp Ser
225             230             235             240
Ala Gly Val Thr Leu Tyr Asn Ile Thr Thr Gly Leu Tyr Pro Phe Glu
            245             250             255
Gly Asp Asn Ile Tyr Lys Leu Phe Glu Asn Ile Gly Lys Gly Ser Tyr
            260             265             270
Ala Ile Pro Gly Asp Cys Gly Pro Pro Leu Ser Asp Leu Leu Lys Gly
            275             280             285
Met Leu Glu Tyr Glu Pro Ala Lys Arg Phe Ser Ile Arg Gln Ile Arg
290             295             300
Gln His Ser Trp Phe Arg Lys Lys His Pro Pro Ala Glu Ala Pro Val
305             310             315             320
Pro Ile Pro Pro Ser Pro Asp Thr Lys Asp Arg Trp Arg Ser Met Thr
            325             330             335
Val Val Pro Tyr Leu Glu Asp Leu His Gly Ala Asp Glu Asp Glu Asp
            340             345             350
Leu Phe Asp Ile Glu Asp Asp Ile Ile Tyr Thr Gln Asp Phe Thr Val
            355             360             365
Pro Gly Gln Val Pro Glu Glu Glu Ala Ser His Asn Gly Gln Arg Arg
370             375             380
Gly Leu Pro Lys Ala Val Cys Met Asn Gly Thr Glu Ala Ala Gln Leu
385             390             395             400
Ser Thr Lys Ser Arg Ala Glu Gly Arg Ala Pro Asn Pro Ala Arg Lys
            405             410             415
Ala Cys Ser Ala Ser Ser Lys Ile Arg Arg Leu Ser Ala Cys Lys Gln
            420             425             430
Gln
```

```
<210> 127
<211> 1488
<212> DNA
<213> Homo Sapiens

<400> 127
gaggggcggg gcggtgccgg caagatggct gcgcccgaga agatgacgtt tcccgagaaa    60
ccaagccaca aaaagtacag ggccgccctg aagaaggaga aacgaaagaa acgtcggcag    120
```

```
gaacttgctc gactgagaga ctcaggactc tcacagaagg aggaagagga ggacactttt    180
attgaagaac aacaactaga agaagagaag ctattggaaa gagagaggca aagattacat    240
gaggagtggt tgctaagaga gcagaaggca caagaagaat tcagaataaa gaaggaaaag    300
gaagaggcgg ctaaaaaacg gcaagaagaa caagagagaa agttaaagga caatgggaa     360
gaacagcaga ggaaagagag agaagaggag gagcagaaac gacaggagaa gaaagaaaaa    420
gaggaagctt tgcagaagat gctggatcag gctgaaaatg agttggaaaa tggtaccaca    480
tggcaaaacc cagaaccacc cgtggatttc agagtaatgg agaaggatcg agctaattgt    540
cccttctaca gtaaaacagg agcttgcaga tttggagata gatgttcacg taaacataat    600
ttcccaacat ccagtcctac ccttcttatt aagagcatgt ttacgacgtt tggaatggag    660
cagtgcagga gggatgacta tgaccctgac gcaagcctgg agtacagcga ggaagaaacc    720
taccaacagt tcctagactt ctatgaggat gtgttgcccg agttcaagaa cgtggggaaa    780
gtgattcagt tcaaggtcag ctgcaatttg gaacctcacc tgaggggcaa tgtatatgtt    840
cagtaccagt cggaagaaga atgccaagca gccctttctc tgtttaacgg acgatggtat    900
gcaggacgac agctgcagtg tgaattctgc cccgtgaccc ggtggaaaat ggcgatttgt    960
ggtttatttg aaatacaaca atgtccaaga ggaaagcact gcaactttct tcatgtgttc   1020
agaaatccca acaatgaatt ctgggaagct aatagagaca tctacttgtc tccagatcgg   1080
actggctcct cctttgggaa gaactccgaa aggagggaga ggatgggcca ccacgacgac   1140
tactacagca ggctgcgggg aaggagaaac cctagtccag accactccta caaaagaaat   1200
ggggaatccg agaggaaaag tagtcgtcac aggggggaaga aatctcacaa acgcacatca   1260
aagagtcggg agaggcacaa ttcacgaagc agaggaagaa atagggaccg cagcagggac   1320
cgcagccggg gccgggggcag ccggagccgg agccggagcc ggagccgcag gagccgccgc   1380
agccggagcc aaagttcctc taggtcccga agtcgtggca ggaggaggtc gggtaataga   1440
gacagaactg ttcagagtcc caaatccaaa taaactagtt ttgttctt            1488
```

```
        <210> 128
        <211> 482
        <212> PRT
        <213> Homo Sapiens

        <400> 128
Met Ala Ala Pro Glu Lys Met Thr Phe Pro Glu Lys Pro Ser His Lys
1               5                   10                  15
Lys Tyr Arg Ala Ala Leu Lys Lys Glu Lys Arg Lys Arg Arg Gln
            20                  25                  30
Glu Leu Ala Arg Leu Arg Asp Ser Gly Leu Ser Gln Lys Glu Glu Glu
        35                  40                  45
Glu Asp Thr Phe Ile Glu Glu Gln Gln Leu Glu Glu Glu Lys Leu Leu
    50                  55                  60
Glu Arg Glu Arg Gln Arg Leu His Glu Glu Trp Leu Leu Arg Glu Gln
65                  70                  75                  80
Lys Ala Gln Glu Glu Phe Arg Ile Lys Lys Glu Lys Glu Glu Ala Ala
                85                  90                  95
Lys Lys Arg Gln Glu Glu Gln Glu Arg Lys Leu Lys Glu Gln Trp Glu
            100                 105                 110
Glu Gln Gln Arg Lys Glu Arg Glu Glu Glu Glu Gln Lys Arg Gln Glu
        115                 120                 125
Lys Lys Glu Lys Glu Glu Ala Leu Gln Lys Met Leu Asp Gln Ala Glu
    130                 135                 140
Asn Glu Leu Glu Asn Gly Thr Thr Trp Gln Asn Pro Glu Pro Pro Val
145                 150                 155                 160
Asp Phe Arg Val Met Glu Lys Asp Arg Ala Asn Cys Pro Phe Tyr Ser
                165                 170                 175
Lys Thr Gly Ala Cys Arg Phe Gly Asp Arg Cys Ser Arg Lys His Asn
            180                 185                 190
Phe Pro Thr Ser Ser Pro Thr Leu Leu Ile Lys Ser Met Phe Thr Thr
```

```
                195                    200                    205
Phe Gly Met Glu Gln Cys Arg Arg Asp Asp Tyr Asp Pro Asp Ala Ser
    210                    215                    220
Leu Glu Tyr Ser Glu Glu Glu Thr Tyr Gln Gln Phe Leu Asp Phe Tyr
225                    230                    235                    240
Glu Asp Val Leu Pro Glu Phe Lys Asn Val Gly Lys Val Ile Gln Phe
                    245                    250                    255
Lys Val Ser Cys Asn Leu Glu Pro His Leu Arg Gly Asn Val Tyr Val
                260                    265                    270
Gln Tyr Gln Ser Glu Glu Glu Cys Gln Ala Ala Leu Ser Leu Phe Asn
                275                    280                    285
Gly Arg Trp Tyr Ala Gly Arg Gln Leu Gln Cys Glu Phe Cys Pro Val
                290                    295                    300
Thr Arg Trp Lys Met Ala Ile Cys Gly Leu Phe Glu Ile Gln Gln Cys
305                    310                    315                    320
Pro Arg Gly Lys His Cys Asn Phe Leu His Val Phe Arg Asn Pro Asn
                    325                    330                    335
Asn Glu Phe Trp Glu Ala Asn Arg Asp Ile Tyr Leu Ser Pro Asp Arg
                340                    345                    350
Thr Gly Ser Ser Phe Gly Lys Asn Ser Glu Arg Arg Glu Arg Met Gly
                355                    360                    365
His His Asp Asp Tyr Tyr Ser Arg Leu Arg Gly Arg Arg Asn Pro Ser
                370                    375                    380
Pro Asp His Ser Tyr Lys Arg Asn Gly Glu Ser Glu Arg Lys Ser Ser
385                    390                    395                    400
Arg His Arg Gly Lys Lys Ser His Lys Arg Thr Ser Lys Ser Arg Glu
                    405                    410                    415
Arg His Asn Ser Arg Ser Arg Gly Arg Asn Arg Asp Arg Ser Arg Asp
                420                    425                    430
Arg Ser Arg Gly Arg Gly Ser Arg Ser Arg Ser Arg Ser Arg Ser Arg
                435                    440                    445
Arg Ser Arg Arg Ser Arg Ser Gln Ser Ser Ser Arg Ser Arg Ser Arg
                450                    455                    460
Gly Arg Arg Arg Ser Gly Asn Arg Asp Arg Thr Val Gln Ser Pro Lys
465                    470                    475                    480
Ser Lys
```

```
        <210> 129
        <211> 1663
        <212> DNA
        <213> Homo Sapiens

        <400> 129
aggccctgag ccaactccgg gtgctctgct gtgagtggct gaggcccgag atccacacca    60
aggagcagat cctggagcta ctggtgctgg agcagttcct gaccatcctg ccccaggagc   120
tccaggcctg ggtgcaggag cattgcccgg agagcgctga agaggctgtc actctcctcg   180
aagatctgga gcgggaactg gatgagccag acaccaggt  ctcaactcct ccaaacgaac   240
agaaaccggt gtgggagaag atatcctcct caggaactgc aaaggaatcc ccgagcagca   300
tgcagccaca gcccttggag accagtcaca aatacgagtc ttggggggccc ctgtacatcc   360
aagagtctgg tgaggagcag gagttcgctc aagatccaag aaaggtccga gattgcagat   420
tgagtaccca gcacgaggaa tcagcagatg agcagaaagg ttctgaagca gagggggctca   480
aaggggatat aatttctgtg attatcgcca ataaacctga ggccagctta gagaggcagt   540
gcgtaaacct tgaaaatgaa aaaggaacaa aaccccctct tcaagaggca ggctccaaga   600
aaggtagaga atcagttcct actaaaccta ccccaggaga gagacgttat atatgtgctg   660
```

```
aatgtggcaa agcctttagt aatagctcaa atctcaccaa acacaggaga acacacactg    720
gggagaaacc ttacgtgtgc accaagtgtg ggaaagcttt cagccacagc tcaaacctca    780
ccctccacta cagaacacac ttggtggacc ggccctatga ctgtaagtgt ggaaaagctt    840
ttgggcagag ctcagacctt cttaaacatc agagaatgca cacagaagag gcgccatatc    900
agtgcaaaga ttgtggcaag gctttcagcg ggaaaggcag cctcattcgt cactatcgga    960
tccacactgg ggagaagcct tatcagtgta acgaatgtgg gaagagcttc agtcagcatg   1020
cgggcctcag ctcccaccag agactccaca ccggagagaa gccatataag tgtaaggagt   1080
gtgggaaagc cttcaaccac agctccaact tcaataaaca ccacagaatc cacaccgggg   1140
aaaagcccta ctggtgtcat cactgtggaa agaccttctg tagcaagtcc aatctttcca   1200
aacatcagcg agtccacact ggagagggag aagcaccgta actttcaagc gctcctgttg   1260
ttgtcgttgt tttaaacttt agaatctgaa aaccagaaag aagtcttgtc attgcagcag   1320
catcgattcc ggtgatagag tttgtatcac tcaacatcag gggatgcctg aggagtgcga   1380
gctccacagc aacatggcag gcaggaggtc ctcagaaggt gtcaggaggt cccacactcg   1440
ccagttcact ggagcagagt cccttcgcca cacttagggt cccagtaagc catgccagca   1500
ttaccttttg cgtagttaaa cagacgtgta tccagtctag ttaaggaaga aacattaaga   1560
ttgtttaatt tttaacatat attcaagaat tttaatttgt aaagaattga gccacattga   1620
acacaattga atgagattca gaataaactt ataacatctt aaa                     1663
```

```
<210> 130
<211> 412
<212> PRT
<213> Homo Sapiens

<400> 130
Ala Leu Ser Gln Leu Arg Val Leu Cys Cys Glu Trp Leu Arg Pro Glu
1               5                   10                  15
Ile His Thr Lys Glu Gln Ile Leu Glu Leu Leu Val Leu Glu Gln Phe
                20                  25                  30
Leu Thr Ile Leu Pro Gln Glu Leu Gln Ala Trp Val Gln Glu His Cys
            35                  40                  45
Pro Glu Ser Ala Glu Glu Ala Val Thr Leu Leu Glu Asp Leu Glu Arg
        50                  55                  60
Glu Leu Asp Glu Pro Gly His Gln Val Ser Thr Pro Pro Asn Glu Gln
65                  70                  75                  80
Lys Pro Val Trp Glu Lys Ile Ser Ser Ser Gly Thr Ala Lys Glu Ser
                85                  90                  95
Pro Ser Ser Met Gln Pro Gln Pro Leu Glu Thr Ser His Lys Tyr Glu
            100                 105                 110
Ser Trp Gly Pro Leu Tyr Ile Gln Glu Ser Gly Glu Glu Gln Glu Phe
            115                 120                 125
Ala Gln Asp Pro Arg Lys Val Arg Asp Cys Arg Leu Ser Thr Gln His
130                 135                 140
Glu Glu Ser Ala Asp Glu Gln Lys Gly Ser Glu Ala Glu Gly Leu Lys
145                 150                 155                 160
Gly Asp Ile Ile Ser Val Ile Ile Ala Asn Lys Pro Glu Ala Ser Leu
                165                 170                 175
Glu Arg Gln Cys Val Asn Leu Glu Asn Glu Lys Gly Thr Lys Pro Pro
            180                 185                 190
Leu Gln Glu Ala Gly Ser Lys Lys Gly Arg Glu Ser Val Pro Thr Lys
            195                 200                 205
Pro Thr Pro Gly Glu Arg Arg Tyr Ile Cys Ala Glu Cys Gly Lys Ala
        210                 215                 220
Phe Ser Asn Ser Ser Asn Leu Thr Lys His Arg Arg Thr His Thr Gly
225                 230                 235                 240
Glu Lys Pro Tyr Val Cys Thr Lys Cys Gly Lys Ala Phe Ser His Ser
```

```
                    245                    250                    255
Ser Asn Leu Thr Leu His Tyr Arg Thr His Leu Val Asp Arg Pro Tyr
                260                    265                    270
Asp Cys Lys Cys Gly Lys Ala Phe Gly Gln Ser Ser Asp Leu Leu Lys
                275                    280                    285
His Gln Arg Met His Thr Glu Glu Ala Pro Tyr Gln Cys Lys Asp Cys
            290                    295                    300
Gly Lys Ala Phe Ser Gly Lys Gly Ser Leu Ile Arg His Tyr Arg Ile
305                    310                    315                    320
His Thr Gly Glu Lys Pro Tyr Gln Cys Asn Glu Cys Gly Lys Ser Phe
                325                    330                    335
Ser Gln His Ala Gly Leu Ser Ser His Gln Arg Leu His Thr Gly Glu
                340                    345                    350
Lys Pro Tyr Lys Cys Lys Glu Cys Gly Lys Ala Phe Asn His Ser Ser
                355                    360                    365
Asn Phe Asn Lys His His Arg Ile His Thr Gly Glu Lys Pro Tyr Trp
            370                    375                    380
Cys His His Cys Gly Lys Thr Phe Cys Ser Lys Ser Asn Leu Ser Lys
385                    390                    395                    400
His Gln Arg Val His Thr Gly Glu Gly Glu Ala Pro
                405                    410
```

```
        <210> 131
        <211> 724
        <212> DNA
        <213> Homo Sapiens

        <400> 131
ggagaatgaa aagcagaaag tggcagagct gtattctatc cataactctg gagacaaatc      60
tgatattcag gacctcctgg agagtgtcag gctggacaaa gaaaaagcag agactttggc     120
tagtagcttg caggaagatc tggctcatac ccgaaatgat gccaatcgat tacaggatgc     180
cattgctaag gtagaggatg aataccgagc cttccaagaa gaagctaaga aacaaattga     240
agatttgaat atgacgttag aaaaattaag atcagacctg gatgaaaaag aaacagaaag     300
gagtgacatg aaagaaacca tctttgaact tgaagatgaa gtagaacaac atcgtgctgt     360
gaaacttcat gacaacctca ttatttctga tctagagaat acagttaaaa aactccagga     420
ccaaaagcac gacatggaaa gagaaataaa gacactccac agaagacttc gggaagaatc     480
tgcggaatgg cggcagtttc aggctgatct ccagactgca gtagtcattg caaatgacat     540
taaatctgaa gcccaagagg agattggtga tctaaagcgc cgggtacatg aggctcaaga     600
aaaaaatgag aaactcacaa aagaattgga ggaaataagt ccgccaagcc agaagangac     660
gangccggta ttccantaca tgnatgcccg tgagagagaa tttggcaggc cttaaggcag     720
ggaa                                                                  724
```

```
        <210> 132
        <211> 218
        <212> PRT
        <213> Homo Sapiens

        <400> 132
Glu Asn Glu Lys Gln Lys Val Ala Glu Leu Tyr Ser Ile His Asn Ser
  1                  5                   10                   15
Gly Asp Lys Ser Asp Ile Gln Asp Leu Leu Glu Ser Val Arg Leu Asp
                 20                   25                   30
Lys Glu Lys Ala Glu Thr Leu Ala Ser Ser Leu Gln Glu Asp Leu Ala
            35                   40                   45
His Thr Arg Asn Asp Ala Asn Arg Leu Gln Asp Ala Ile Ala Lys Val
```

```
        50                    55                    60
Glu Asp Glu Tyr Arg Ala Phe Gln Glu Glu Ala Lys Lys Gln Ile Glu
65                    70                    75                    80
Asp Leu Asn Met Thr Leu Glu Lys Leu Arg Ser Asp Leu Asp Glu Lys
                85                    90                    95
Glu Thr Glu Arg Ser Asp Met Lys Glu Thr Ile Phe Glu Leu Glu Asp
                100                   105                   110
Glu Val Glu Gln His Arg Ala Val Lys Leu His Asp Asn Leu Ile Ile
                115                   120                   125
Ser Asp Leu Glu Asn Thr Val Lys Lys Leu Gln Asp Gln Lys His Asp
                130                   135                   140
Met Glu Arg Glu Ile Lys Thr Leu His Arg Arg Leu Arg Glu Glu Ser
145                   150                   155                   160
Ala Glu Trp Arg Gln Phe Gln Ala Asp Leu Gln Thr Ala Val Val Ile
                165                   170                   175
Ala Asn Asp Ile Lys Ser Glu Ala Gln Glu Glu Ile Gly Asp Leu Lys
                180                   185                   190
Arg Arg Val His Glu Ala Gln Glu Lys Asn Glu Lys Leu Thr Lys Glu
                195                   200                   205
Leu Glu Glu Ile Ser Pro Pro Ser Gln Lys
210                   215
```

```
        <210> 133
        <211> 719
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 133
gagaactaca gagctgggtg cggggccaac ggccagaaag tggcgaggag gcagtgacgc     60
tggtggaggg tttgcagaaa caacccagga gaccaaggcg gtgactgtcc atgttcacgg    120
ccaggaagtc ctgtcagagg agacggtgca tttaggagcg gagcctgagt cacctaatga    180
gctgcaggat cctgtgcaaa gctcgacccc cgagcagtct cctgaggaaa ccacacagag    240
cccagatctg ggggcaccgg cagagcagcg tccacaccag gaagaggagc tccagaccct    300
gcaggagagc gaggtcccag tgcccgagga cccagacctt cctgcagaga ggagctctgg    360
agactcagag atggttgctc ttcttactgc tctgtcacag ggactggtaa cgttcaagga    420
tgtggccgta tgcttttccc aggaccagtg gagtgatctg acccaacac agaaagagtt     480
ctatggagaa tatgtcttgg aagaagactg tggaattgtt gtctctctgt catttccaat    540
ccccagacct gatgagatct cccaggttag agaggaagag cccttgggtc ccagatatcc    600
aagagcctna ggagactcaa gagccagaaa tcctgagttt tacctacaca ggagatagga    660
gtnaagatga aggaaaatgt ctggagccag gaagaatctg agtttggagg atataccca     719
```

```
        <210> 134
        <211> 217
        <212> PRT
        <213> Homo Sapiens
```

```
        <400> 134
Arg Thr Thr Glu Leu Gly Ala Gly Pro Thr Ala Arg Lys Trp Arg Gly
1                   5                     10                    15
Gly Ser Asp Ala Gly Gly Gly Phe Ala Glu Thr Thr Gln Glu Thr Lys
                20                    25                    30
Ala Val Thr Val His Val His Gly Gln Glu Val Leu Ser Glu Glu Thr
                35                    40                    45
Val His Leu Gly Ala Glu Pro Glu Ser Pro Asn Glu Leu Gln Asp Pro
        50                    55                    60
```
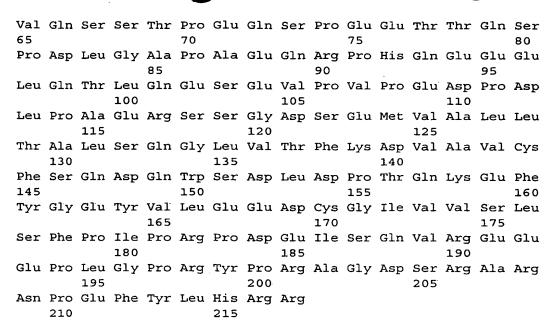
-99-

```
Val Gln Ser Ser Thr Pro Glu Gln Ser Pro Glu Glu Thr Thr Gln Ser
65              70              75              80
Pro Asp Leu Gly Ala Pro Ala Glu Gln Arg Pro His Gln Glu Glu Glu
            85              90              95
Leu Gln Thr Leu Gln Glu Ser Glu Val Pro Val Pro Glu Asp Pro Asp
            100             105             110
Leu Pro Ala Glu Arg Ser Ser Gly Asp Ser Glu Met Val Ala Leu Leu
            115             120             125
Thr Ala Leu Ser Gln Gly Leu Val Thr Phe Lys Asp Val Ala Val Cys
            130             135             140
Phe Ser Gln Asp Gln Trp Ser Asp Leu Asp Pro Thr Gln Lys Glu Phe
145             150             155             160
Tyr Gly Glu Tyr Val Leu Glu Glu Asp Cys Gly Ile Val Val Ser Leu
                165             170             175
Ser Phe Pro Ile Pro Arg Pro Asp Glu Ile Ser Gln Val Arg Glu Glu
            180             185             190
Glu Pro Leu Gly Pro Arg Tyr Pro Arg Ala Gly Asp Ser Arg Ala Arg
            195             200             205
Asn Pro Glu Phe Tyr Leu His Arg Arg
            210             215
```

```
<210> 135
<211> 1027
<212> DNA
<213> Homo Sapiens

<400> 135
gcgagggcga gggcgaggcg gtgctcatgg aggaggacct gatccagcag agcctggacg    60
actacgacgc cggcaggtac agcccgcggc tgctcacggc gcacgagctg ccactggacg   120
cgcacgtgct ggaaccggat gaggacctgc agcgcctgca gctctcgcgc cagcagctcc   180
aggtcacggg agacgccagc gagagcgccg aggacatctt cttccggcgg gccaaggagg   240
gcatgggcca ggacgaggcg cagttcagcg tggagatgcc actcaccggc aaggcctacc   300
tgtgggccga caagtaccgg ccacgcaagc cgcgcttctt caaccgcgtg cacacgggct   360
tcgagtggaa caagtacaac cagacgcact acgactttga caacccaccg cccaagatcg   420
tgcagggata caagttcaac atcttctacc ccgacctcat cgacaagcgc tccacgcccg   480
agtacttcct ggaggcctgc ccgacaaca aggattcgc catcctgcgc ttcacgcggg   540
gccgcctacg aggacatcgc tttcaagatc gtcaaccgcg agtgggaata ctngcaccgc   600
cacggcttcc gctgccagtt tgccaacggc attttccanc tgngctttca cttcaagcgc   660
tnccgctatc ggcggtgacg gccctgggga acggcaggcc aggagggccg agggccacac   720
gggtgccaca gcccaggtcg gagtggccca gccggcaggc ttgttttttca gcatccgacg   780
ggaacatctc caacagaagc aaaacggaaa gtgcctcccg acccccaga gggccaccca   840
acctcaccag tcaccagccc cagaccaccc acagcccctc ccagacaccc cgcctcatct   900
ggaaatagtt ccgtttgttt ctctaaaaag acttgtaggt gggaaaaaaa atcttttggt   960
ctcatggaat tggcctattg caagatcgc atgttttttt aataaacgtt gtattttaga  1020
ataaaaa                                                           1027

<210> 136
<211> 299
<212> PRT
<213> Homo Sapiens

<400> 136
```

```
Glu Gly Glu Gly Glu Ala Val Leu Met Glu Glu Asp Leu Ile Gln Gln
1               5               10              15
Ser Leu Asp Asp Tyr Asp Ala Gly Arg Tyr Ser Pro Arg Leu Leu Thr
```

```
                        20                    25                    30
Ala His Glu Leu Pro Leu Asp Ala His Val Leu Glu Pro Asp Glu Asp
            35                    40                    45
Leu Gln Arg Leu Gln Leu Ser Arg Gln Gln Leu Gln Val Thr Gly Asp
        50                    55                    60
Ala Ser Glu Ser Ala Glu Asp Ile Phe Phe Arg Arg Ala Lys Glu Gly
65                    70                    75                    80
Met Gly Gln Asp Glu Ala Gln Phe Ser Val Glu Met Pro Leu Thr Gly
                85                    90                    95
Lys Ala Tyr Leu Trp Ala Asp Lys Tyr Arg Pro Arg Lys Pro Arg Phe
                100                   105                   110
Phe Asn Arg Val His Thr Gly Phe Glu Trp Asn Lys Tyr Asn Gln Thr
            115                   120                   125
His Tyr Asp Phe Asp Asn Pro Pro Lys Ile Val Gln Gly Tyr Lys
        130                   135                   140
Phe Asn Ile Phe Tyr Pro Asp Leu Ile Asp Lys Arg Ser Thr Pro Glu
145                   150                   155                   160
Tyr Phe Leu Glu Ala Cys Ala Asp Asn Lys Asp Phe Ala Ile Leu Arg
                165                   170                   175
Phe Thr Arg Gly Arg Leu Arg Gly His Arg Phe Gln Asp Arg Gln Pro
                180                   185                   190
Arg Val Gly Ile Leu Ala Pro Pro Arg Leu Pro Leu Pro Val Cys Gln
                195                   200                   205
Arg His Phe Pro Leu Ser Leu Gln Ala Leu Pro Leu Ser Ala Val Thr
            210                   215                   220
Ala Leu Gly Asn Gly Arg Pro Gly Gly Pro Arg Ala Thr Arg Val Pro
225                   230                   235                   240
Gln Pro Arg Ser Glu Trp Pro Ser Arg Gln Ala Cys Phe Ser Ala Ser
                245                   250                   255
Asp Gly Asn Ile Ser Asn Arg Ser Lys Thr Glu Ser Ala Ser Arg Thr
                260                   265                   270
Pro Arg Gly Pro Pro Asn Leu Thr Ser His Gln Pro Gln Thr Thr His
            275                   280                   285
Ser Pro Ser Gln Thr Pro Arg Leu Ile Trp Lys
        290                   295
```

```
        <210> 137
        <211> 766
        <212> DNA
        <213> Homo Sapiens

        <400> 137
caaaggttta cacagtaaac aatgtgaatg tgatcaccaa aatacgcaca gaacatctga      60
ccgaggagga aaaaagaga tataaagaca ggaacccgct ggaatctttg ctgggaactg      120
tggaacacca atttggtgca caaggggacc tcaccacgga atgtgctact gcaaacaacc     180
ccacagccat cacgcctgat gagtacttca atgaagagtt tgatctgaaa gacagggaca     240
ttggaaggcc gaaagagctg acgattagaa cacagaagtt taaagcaatg ttgtggatgt     300
gtgaagagtt tcccctctct ctggtggagc aggtcattcc catcattgac ctaatggctc     360
gaacgagtgc tcattttgca agactgagag atttcatcaa attggaattc ccacctggat     420
ttcctgtcaa aatagcttcc cacatcacaa actttgaggt tgatcaatct gtgtttgaaa     480
ttcccgaatc ttactatgtt caagacaatg cagaaatgt gcatttgcaa gatgaagatt     540
acgagataat gcagtttgcc atccagcaaa gtctgctgga gtccagcagg agccaggaac     600
tttcaggacc agcttcgaat ggagggatca gccagacaaa cacctatgac gcccagtatg     660
agaggccat ncaggagagc cttctaccag cacagaaagc ctgtgccccc agcgccctg       720
agcgagacna gccgttttga taatggactt gcagctaagc catgga                    766
```

```
<210> 138
<211> 243
<212> PRT
<213> Homo Sapiens

<400> 138
Lys Val Tyr Thr Val Asn Asn Val Asn Val Ile Thr Lys Ile Arg Thr
1               5                   10                  15
Glu His Leu Thr Glu Glu Glu Lys Lys Arg Tyr Lys Asp Arg Asn Pro
            20                  25                  30
Leu Glu Ser Leu Leu Gly Thr Val Glu His Gln Phe Gly Ala Gln Gly
        35                  40                  45
Asp Leu Thr Thr Glu Cys Ala Thr Ala Asn Asn Pro Thr Ala Ile Thr
    50                  55                  60
Pro Asp Glu Tyr Phe Asn Glu Glu Phe Asp Leu Lys Asp Arg Asp Ile
65                  70                  75                  80
Gly Arg Pro Lys Glu Leu Thr Ile Arg Thr Gln Lys Phe Lys Ala Met
                85                  90                  95
Leu Trp Met Cys Glu Glu Phe Pro Leu Ser Leu Val Glu Gln Val Ile
            100                 105                 110
Pro Ile Ile Asp Leu Met Ala Arg Thr Ser Ala His Phe Ala Arg Leu
        115                 120                 125
Arg Asp Phe Ile Lys Leu Glu Phe Pro Pro Gly Phe Pro Val Lys Ile
    130                 135                 140
Ala Ser His Ile Thr Asn Phe Glu Val Asp Gln Ser Val Phe Glu Ile
145                 150                 155                 160
Pro Glu Ser Tyr Tyr Val Gln Asp Asn Gly Arg Asn Val His Leu Gln
                165                 170                 175
Asp Glu Asp Tyr Glu Ile Met Gln Phe Ala Ile Gln Gln Ser Leu Leu
            180                 185                 190
Glu Ser Ser Arg Ser Gln Glu Leu Ser Gly Pro Ala Ser Asn Gly Gly
        195                 200                 205
Ile Ser Gln Thr Asn Thr Tyr Asp Ala Gln Tyr Glu Arg Ala Gln Glu
    210                 215                 220
Ser Leu Leu Pro Ala Gln Lys Ala Cys Ala Pro Ser Ala Pro Glu Arg
225                 230                 235                 240
Asp Pro Phe


<210> 139
<211> 3060
<212> DNA
<213> Homo Sapiens

<400> 139
ccgggcggga gtgcggcgag agccggctgg ctgagcttag cgtccgagga ggcggcggcg    60
gcggcggcgg cagcggcggc ggcggggctg tggggcggtg cggaagcgag aggcgaggag   120
cgcgcgggcc gtggccagag tctggcggcg gcctggcgga gcggagagca gcgcccgcgc   180
ctcgccgtgc ggaggagccc cgcacacaat agcggcgcgc gcagcccgcg cccttcccc    240
cggcgcgccc cgccccgcgc gccgagcgcc ccgctccgcc tcacctgcca ccagggagtg   300
ggcgggcatt gttcgccgcc gccgccgccg cgcggggcca tggggccgc  ccggcgcccg   360
gggccgggcc tggcgaggcc gccgcgccgc cgctgagacg gccccgcgc  gcagcccggc   420
ggcgcaggta aggccggccg cgccatggtg gacccggtgg gcttcgcgga ggcgtggaag   480
gcgcagttcc cggactcaga gccccccgcgc atggagctgc gctcagtggg cgacatcgag   540
caggagctgg agcgctgcaa ggcctccatt cggcgcctgg agcaggaggt gaaccaggag   600
```

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```
cgcttccgca tgatctacct gcagacgttg ctggccaagg aaaagaagag ctatgaccgg   660
cagcgatggg gcttccggcg cgcggcgcag gcccccgacg gcgcctccga gccccgagcg   720
tccgcgtcgc gcccgcagcc agcgcccgcc gacggagccg acccgccgcc cgccgaggag   780
cccgaggccc ggcccgacgg cgagggttct ccgggtaagg ccaggcccgg gaccgcccgc   840
aggcccgggg cagccgcgtc gggggaacgg gacgaccggg gacccccccgc cagcgtggcg   900
gcgctcaggt ccaacttcga gcggatccgc aagggccatg gccagcccgg ggcggacgcc   960
gagaagccct tctacgtgaa cgtcgagttt caccacgagc gcggcctggt gaaggtcaac  1020
gacaaagagg tgtcggaccg catcagctcc ctgggcagcc aggccatgca gatggagcgc  1080
aaaaagtccc agcacggcgc gggctcgagc gtgggggatg catccaggcc cccttaccgg  1140
ggacgctcct cggagagcag ctgcggcgtc gacggcgact acgaggacgc cgagttgaac  1200
cccccgcttcc tgaaggacaa cctgatcgac gccaatggcg gtagcaggcc cccttggccg  1260
cccctggagt accagcccta ccagagcatc tacgtcgggg gcatgatgga aggggagggc  1320
aagggcccgc tcctgcgcag ccagagcacc tctgagcagg agaagcgcct tacctggccc  1380
cgcaggtcct actcccccccg gagtttgag gattgcggag cggctatac cccggactgc  1440
agctccaatg agaacctcac ctccagcgag gaggacttct cctctggcca gtccagccgc  1500
gtgtccccaa gccccaccac ctaccgcatg ttccgggaca aagccgctc tccctcgcag  1560
aactcgcaac agtccttcga cagcagcagt cccccccacgc cgcagtgcca taagcggcac  1620
cggcactgcc cggttgtcgt gtccgaggcc accatcgtgg gcgtccgcaa gaccgggcag  1680
atctggccca acgatggcga gggcgccttc catggagacg cagatggctc gttcggaaca  1740
ccacctggat acggctgcgc tgcagaccgg gcagaggagc agcgccggca ccaagatggg  1800
ctgccctaca ttgatgactc gcccctcctca tcgccccacc tcagcagcaa gggcaggggc  1860
agccgggatg cgctggtctc gggagccctg gagtccacta aagcgagtga gctggacttg  1920
gaaaagggct tggagatgag aaaatgggtc ctgtcgggaa tcctggctag cgaggagact  1980
tacctgagcc acctggaggc actgctgctg cccatgaagc ctttgaaagc cgctgccacc  2040
acctctcagc cggtgctgac gagtcagcag atcgagacca tcttcttcaa agtgcctgag  2100
ctctacgaga tccacaagga gttctatgat gggctcttcc ccgcgtgca gcagtggagc  2160
caccagcagc gggtgggcga cctcttccag aagctggcca gccagctggg tgtgtaccgg  2220
gccttcgtgg acaactacgg agttgccatg gaaatggctg agaagtgctg tcaggccaat  2280
gctcagtttg cagaaatctc cgagaacctg agagccagaa gcaacaaaga tgccaaggat  2340
ccaacgacca agaactctct ggaaactctg ctctacaagc ctgtggaccg tgtgacgagg  2400
agcacgctgg tcctccatga cttgctgaag cacactcctg ccagccaccc tgaccacccc  2460
ttgctgcagg acgccctccg catctcacag aacttcctgt ccagcatcaa tgaggagatc  2520
acaccccgac ggcagtccat gacggtgaag aagggagagc accggcagct gctgaaggac  2580
agcttcatgg tggagctggt ggaggggcc cgcaagctgc ccacgtctt cctgttcacc  2640
gagctgcttc tctgcaccaa gctcaagaag cagagcggag caaaacgca gcagtatgac  2700
tgcaaatggt acattccgct cacggatctc agcttccaga tggtggatga actggaggca  2760
gtgcccaaca tcccccctggt gcccgatgag gagctggacg ctttgaagat caagatctcc  2820
cagatcaaga gtgacatcca gagagagaag agggcgaaca agggcagcaa ggctacggag  2880
aggctgaaga gaagctgtc ggagcaggag tcactgctgc tgcttatgtc tcccagcatg  2940
gccttcaggg tgcacagccg caacggcaag agttacacgt tcctgatctc ctctgactat  3000
gagcgtgcag agtggaggga gaacatccgg gagcagcaga agaagtgttt cagaagcttc  3060
```

```
        <210> 140
        <211> 872
        <212> PRT
        <213> Homo Sapiens

        <400> 140
Met Val Asp Pro Val Gly Phe Ala Glu Ala Trp Lys Ala Gln Phe Pro
1               5                   10                  15
Asp Ser Glu Pro Pro Arg Met Glu Leu Arg Ser Val Gly Asp Ile Glu
                20                  25                  30
Gln Glu Leu Glu Arg Cys Lys Ala Ser Ile Arg Arg Leu Glu Gln Glu
            35                  40                  45
Val Asn Gln Glu Arg Phe Arg Met Ile Tyr Leu Gln Thr Leu Leu Ala
```

<pre>
            50   55   60
Lys Glu Lys Lys Ser Tyr Asp Arg Gln Arg Trp Gly Phe Arg Arg Ala
65   70   75   80
Ala Gln Ala Pro Asp Gly Ala Ser Glu Pro Arg Ala Ser Ala Ser Arg
                         85   90   95
Pro Gln Pro Ala Pro Ala Asp Gly Ala Asp Pro Pro Pro Ala Glu Glu
                        100   105   110
Pro Glu Ala Arg Pro Asp Gly Glu Gly Ser Pro Gly Lys Ala Arg Pro
                        115   120   125
Gly Thr Ala Arg Arg Pro Gly Ala Ala Ala Ser Gly Glu Arg Asp Asp
            130   135   140
Arg Gly Pro Pro Ala Ser Val Ala Ala Leu Arg Ser Asn Phe Glu Arg
145   150   155   160
Ile Arg Lys Gly His Gly Gln Pro Gly Ala Asp Ala Glu Lys Pro Phe
                        165   170   175
Tyr Val Asn Val Glu Phe His His Glu Arg Gly Leu Val Lys Val Asn
                        180   185   190
Asp Lys Glu Val Ser Asp Arg Ile Ser Ser Leu Gly Ser Gln Ala Met
            195   200   205
Gln Met Glu Arg Lys Lys Ser Gln His Gly Ala Gly Ser Ser Val Gly
            210   215   220
Asp Ala Ser Arg Pro Pro Tyr Arg Gly Arg Ser Ser Glu Ser Ser Cys
225   230   235   240
Gly Val Asp Gly Asp Tyr Glu Asp Ala Glu Leu Asn Pro Arg Phe Leu
                        245   250   255
Lys Asp Asn Leu Ile Asp Ala Asn Gly Gly Ser Arg Pro Pro Trp Pro
                        260   265   270
Pro Leu Glu Tyr Gln Pro Tyr Gln Ser Ile Tyr Val Gly Gly Met Met
            275   280   285
Glu Gly Glu Gly Lys Gly Pro Leu Leu Arg Ser Gln Ser Thr Ser Glu
            290   295   300
Gln Glu Lys Arg Leu Thr Trp Pro Arg Arg Ser Tyr Ser Pro Arg Ser
305   310   315   320
Phe Glu Asp Cys Gly Gly Gly Tyr Thr Pro Asp Cys Ser Ser Asn Glu
                        325   330   335
Asn Leu Thr Ser Ser Glu Glu Asp Phe Ser Ser Gly Gln Ser Ser Arg
            340   345   350
Val Ser Pro Ser Pro Thr Thr Tyr Arg Met Phe Arg Asp Lys Ser Arg
            355   360   365
Ser Pro Ser Gln Asn Ser Gln Gln Ser Phe Asp Ser Ser Ser Pro Pro
            370   375   380
Thr Pro Gln Cys His Lys Arg His Arg His Cys Pro Val Val Val Ser
385   390   395   400
Glu Ala Thr Ile Val Gly Val Arg Lys Thr Gly Gln Ile Trp Pro Asn
                        405   410   415
Asp Gly Glu Gly Ala Phe His Gly Asp Ala Asp Gly Ser Phe Gly Thr
            420   425   430
Pro Pro Gly Tyr Gly Cys Ala Ala Asp Arg Ala Glu Glu Gln Arg Arg
            435   440   445
His Gln Asp Gly Leu Pro Tyr Ile Asp Asp Ser Pro Ser Ser Ser Pro
450   455   460
His Leu Ser Ser Lys Gly Arg Gly Ser Arg Asp Ala Leu Val Ser Gly
465   470   475   480
Ala Leu Glu Ser Thr Lys Ala Ser Glu Leu Asp Leu Glu Lys Gly Leu
                        485   490   495
</pre>

```
Glu Met Arg Lys Trp Val Leu Ser Gly Ile Leu Ala Ser Glu Glu Thr
            500                 505                 510
Tyr Leu Ser His Leu Glu Ala Leu Leu Leu Pro Met Lys Pro Leu Lys
            515                 520                 525
Ala Ala Ala Thr Thr Ser Gln Pro Val Leu Thr Ser Gln Gln Ile Glu
            530                 535                 540
Thr Ile Phe Phe Lys Val Pro Glu Leu Tyr Glu Ile His Lys Glu Phe
545                 550                 555                 560
Tyr Asp Gly Leu Phe Pro Arg Val Gln Gln Trp Ser His Gln Gln Arg
                565                 570                 575
Val Gly Asp Leu Phe Gln Lys Leu Ala Ser Gln Leu Gly Val Tyr Arg
                580                 585                 590
Ala Phe Val Asp Asn Tyr Gly Val Ala Met Glu Met Ala Glu Lys Cys
            595                 600                 605
Cys Gln Ala Asn Ala Gln Phe Ala Glu Ile Ser Glu Asn Leu Arg Ala
            610                 615                 620
Arg Ser Asn Lys Asp Ala Lys Asp Pro Thr Thr Lys Asn Ser Leu Glu
625                 630                 635                 640
Thr Leu Leu Tyr Lys Pro Val Asp Arg Val Thr Arg Ser Thr Leu Val
                645                 650                 655
Leu His Asp Leu Leu Lys His Thr Pro Ala Ser His Pro Asp His Pro
            660                 665                 670
Leu Leu Gln Asp Ala Leu Arg Ile Ser Gln Asn Phe Leu Ser Ser Ile
            675                 680                 685
Asn Glu Glu Ile Thr Pro Arg Arg Gln Ser Met Thr Val Lys Lys Gly
            690                 695                 700
Glu His Arg Gln Leu Leu Lys Asp Ser Phe Met Val Glu Leu Val Glu
705                 710                 715                 720
Gly Ala Arg Lys Leu Arg His Val Phe Leu Phe Thr Glu Leu Leu Leu
                725                 730                 735
Cys Thr Lys Leu Lys Lys Gln Ser Gly Gly Lys Thr Gln Gln Tyr Asp
                740                 745                 750
Cys Lys Trp Tyr Ile Pro Leu Thr Asp Leu Ser Phe Gln Met Val Asp
            755                 760                 765
Glu Leu Glu Ala Val Pro Asn Ile Pro Leu Val Pro Asp Glu Glu Leu
            770                 775                 780
Asp Ala Leu Lys Ile Lys Ile Ser Gln Ile Lys Ser Asp Ile Gln Arg
785                 790                 795                 800
Glu Lys Arg Ala Asn Lys Gly Ser Lys Ala Thr Glu Arg Leu Lys Lys
                805                 810                 815
Lys Leu Ser Glu Gln Glu Ser Leu Leu Leu Leu Met Ser Pro Ser Met
                820                 825                 830
Ala Phe Arg Val His Ser Arg Asn Gly Lys Ser Tyr Thr Phe Leu Ile
            835                 840                 845
Ser Ser Asp Tyr Glu Arg Ala Glu Trp Arg Glu Asn Ile Arg Glu Gln
850                 855                 860
Gln Lys Lys Cys Phe Arg Ser Phe
865                 870
```

        <210> 141
        <211> 691
        <212> DNA
        <213> Homo Sapiens

        <400> 141

```
gaccccctcac actcacctag ccaccatgga catcgccatc caccacccct ggatccgccg     60
cccctttcttt cctttccact cccccagccg cctctttgac cagttcttcg gagagcacct    120
gttggagtct gatctttttcc cgacgtctac ttccctgagt cccttctacc ttcggccacc    180
ctccttcctg cgggcaccca gctggtttga cactggactc tcagagatgc gcctggagaa    240
ggacaggttc tctgtcaacc tggatgtgaa gcacttctcc ccagaggaac tcaaagttaa    300
ggtgttggga gatgtgattg aggtgcatgg aaaacatgaa gagcgccagg atgaacatgg    360
tttcatctcc agggagttcc acaggaaata ccggatccca gctgatgtag accctctcac    420
cattacttca tccctgtcat ctgatggggt cctcactgtg aatggaccaa ggaaacaggt    480
ctctggccct gagcgcacca ttcccatcac ccgtgaagag aagcctgctg tcaccgcagc    540
ccccaagaaa tagatgccct ttcttgaatt gcattttta aaacaagaaa gtttccccac    600
cagtgaatga aagtcttgtg actagtgctg aagcttatta atgctaaggg caggcccaaa    660
ttatcaagct aataaaatat cattcagcaa c                                   691
```

```
<210> 142
<211> 175
<212> PRT
<213> Homo Sapiens
```

```
<400> 142
Met Asp Ile Ala Ile His His Pro Trp Ile Arg Arg Pro Phe Phe Pro
1               5                   10                  15
Phe His Ser Pro Ser Arg Leu Phe Asp Gln Phe Phe Gly Glu His Leu
            20                  25                  30
Leu Glu Ser Asp Leu Phe Pro Thr Ser Thr Ser Leu Ser Pro Phe Tyr
        35                  40                  45
Leu Arg Pro Pro Ser Phe Leu Arg Ala Pro Ser Trp Phe Asp Thr Gly
    50                  55                  60
Leu Ser Glu Met Arg Leu Glu Lys Asp Arg Phe Ser Val Asn Leu Asp
65                  70                  75                  80
Val Lys His Phe Ser Pro Glu Glu Leu Lys Val Lys Val Leu Gly Asp
                85                  90                  95
Val Ile Glu Val His Gly Lys His Glu Glu Arg Gln Asp Glu His Gly
            100                 105                 110
Phe Ile Ser Arg Glu Phe His Arg Lys Tyr Arg Ile Pro Ala Asp Val
            115                 120                 125
Asp Pro Leu Thr Ile Thr Ser Ser Leu Ser Ser Asp Gly Val Leu Thr
        130                 135                 140
Val Asn Gly Pro Arg Lys Gln Val Ser Gly Pro Glu Arg Thr Ile Pro
145                 150                 155                 160
Ile Thr Arg Glu Glu Lys Pro Ala Val Thr Ala Ala Pro Lys Lys
                165                 170                 175
```

```
<210> 143
<211> 1300
<212> DNA
<213> Homo Sapiens
```
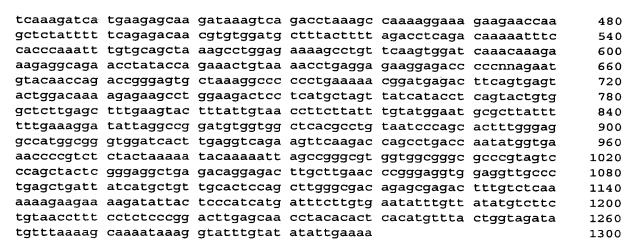
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<400> 143
atctgctggg aatttcttgg gttgacagct cttggatccc tattttgaac agtggtagtg     60
tcctggatta cttttcagaa agaagtaatc cttttatga cagaacatgt aataatgaag    120
tggtcaaaat gcagaggcta acattagaac acttgaatca gatggttgga atcgagtaca    180
tccttttgca tgctcaagag cccattcttt tcatcattcg gaagcaacag cggcagtccc    240
ctgcccaagt tatcccacta gctgattact atatcattgc tggagtgatc tatcaggcac    300
cagacttggg atcagttata aactctagag tgcttactgc agtgcatggt attcagtcag    360
cttttgatga agctatgtca tactgtcgat atcatccttc caaagggtat tggtggcact    420
```

```
tcaaagatca tgaagagcaa gataaagtca gacctaaagc caaaaggaaa gaagaaccaa    480
gctctatttt tcagagacaa cgtgtggatg ctttactttt agacctcaga caaaaatttc    540
cacccaaatt tgtgcagcta aagcctggag aaaagcctgt tcaagtggat caaacaaaga    600
aagaggcaga acctatacca gaaactgtaa aacctgagga gaaggagacc cccnnagaat    660
gtacaaccag accgggagtg ctaaaggccc ccctgaaaaa cggatgagac ttcagtgagt    720
actggacaaa agagaagcct ggaagactcc tcatgctagt tatcatacct cagtactgtg    780
gctcttgagc tttgaagtac tttattgtaa ccttcttatt tgtatggaat gcgcttattt    840
tttgaaagga tattaggccg gatgtggtgg ctcacgcctg taatcccagc actttgggag    900
gccatggcgg gtggatcact tgaggtcaga agttcaagac cagcctgacc aatatggtga    960
aacccccgtct ctactaaaaa tacaaaaatt agccgggcgt ggtggcgggc gcccgtagtc   1020
ccagctactc gggaggctga cacaggagac ttgcttgaac ccgggaggtg gaggttgccc   1080
tgagctgatt atcatgctgt tgcactccag cttgggcgac agagcgagac tttgtctcaa   1140
aaaagaagaa aagatattac tcccatcatg atttcttgtg aatatttgtt atatgtcttc   1200
tgtaaccttt cctctcccgg acttgagcaa cctacacact cacatgttta ctggtagata   1260
tgtttaaaag caaaataaag gtatttgtat atattgaaaa                         1300
```

        <210> 144
        <211> 233
        <212> PRT
        <213> Homo Sapiens

        <400> 144
Leu Leu Gly Ile Ser Trp Val Asp Ser Ser Trp Ile Pro Ile Leu Asn
 1   5   10   15
Ser Gly Ser Val Leu Asp Tyr Phe Ser Glu Arg Ser Asn Pro Phe Tyr
            20   25   30
Asp Arg Thr Cys Asn Asn Glu Val Val Lys Met Gln Arg Leu Thr Leu
        35   40   45
Glu His Leu Asn Gln Met Val Gly Ile Glu Tyr Ile Leu Leu His Ala
    50   55   60
Gln Glu Pro Ile Leu Phe Ile Ile Arg Lys Gln Arg Gln Ser Pro
65   70   75   80
Ala Gln Val Ile Pro Leu Ala Asp Tyr Tyr Ile Ile Ala Gly Val Ile
                100   105   110
Tyr Gln Ala Pro Asp Leu Gly Ser Val Ile Asn Ser Arg Val Leu Thr
                100   105   110
Ala Val His Gly Ile Gln Ser Ala Phe Asp Glu Ala Met Ser Tyr Cys
            115   120   125
Arg Tyr His Pro Ser Lys Gly Tyr Trp Trp His Phe Lys Asp His Glu
    130   135   140
Glu Gln Asp Lys Val Arg Pro Lys Ala Lys Arg Lys Glu Glu Pro Ser
145   150   155   160
Ser Ile Phe Gln Arg Gln Arg Val Asp Ala Leu Leu Leu Asp Leu Arg
                165   170   175
Gln Lys Phe Pro Pro Lys Phe Val Gln Leu Lys Pro Gly Glu Lys Pro
                180   185   190
Val Gln Val Asp Gln Thr Lys Lys Glu Ala Glu Pro Ile Pro Glu Thr
            195   200   205
Val Lys Pro Glu Glu Lys Glu Thr Pro Glu Cys Thr Thr Arg Pro Gly
    210   215   220
Val Leu Lys Ala Pro Leu Lys Asn Gly
225   230

        <210> 145
        <211> 1528
```

```
        <212> DNA
        <213> Homo Sapiens

        <400> 145
cccccctttt tttttaaact aaaatggagg ctggtttctt gccttaagga gcccattgcc      60
tttcccgctg aagtctagat gttgacatgt aataaagcgg gcagcaggat ggtggtggat     120
gcggccaact ccaatgggcc tttccagccc gtggtccttc tccatattcg agatgttcct     180
cctgctgatc aagagaagct ttttatccag aagttacgtc agtgttgcgt cctctttgac     240
tttgtttctg atccactaag tgacctaaag tggaaggaag taaaacgagc tgctttaagt     300
gaaatggtag aatatatcac ccataatcgg aatgtgatca cagagcctat ttacccagaa     360
gtagtccata tgtttgcagt taacatgttt cgaacattac caccttcctc caatcctacg     420
ggagcggaat ttgacccgga ggaagatgaa ccaacgttag aagcagcctg gcctcatcta     480
cagcttgttt atgaattttt cttaagattt ttagagtctc cagatttcca acctaatata     540
gcgaagaaat atattgatca gaagtttgta ttgcagcttt tagagctctt tgacagtgaa     600
gatcctcggg agagagattt tcttaaaacc acccttcaca gaatctatgg gaaattccta     660
ggcttgagag cttacatcag aaaacagata aataatatat tttataggtt tatttatgaa     720
acagagcatc ataatggcat agcagagtta ctggaaatat tgggaagtat aattaatgga     780
tttgccttac cactaaaaga gagcacaag attttcttat tgaaggtgtt actacctttg     840
cacaaagtga aatctctgag tgtctaccat ccccagctgg catactgtgt agtgcagttt     900
ttagaaaagg acagcaccct cacggaacca gtggtgatgg cacttctcaa atactggcca     960
aagactcaca gtccaaaaga agtaatgttc ttaaacgaat tagaagagat tttagatgtc    1020
attgaaccat cagaatttgt gaagatcatg gaacccctct ccggcagtt ggccaaatgt.    1080
gtctccagcc cacacttcca-ggtggcagag cgagctctct attactggaa taatgaatac    1140
atcatgagtt taatcagtga caacgcagcg aagattctgc ccatcatgtt tccttccttg    1200
taccgcaact caaagaccca ttggaacaag acaatacatg gcttgatata caacgccctg    1260
aagctcttca tggagatgaa ccaaaagcta tttgatgact gtacacaaca gttcaaagca    1320
gagaaactaa aagagaagct aaaaatgaaa gaacgggag aagcatgggt taaaatagaa    1380
aatctagcca aagccaatcc ccaggtacta aaaaagagaa taacatgaaa aggcccaggg    1440
ttacttgaat gtttttataa gataggaata tatgtcttca ccatggggggg ggtctcgatt    1500
tcactaacgt tgtatatgaa aatgtctg                                       1528

        <210> 146
        <211> 449
        <212> PRT
        <213> Homo Sapiens
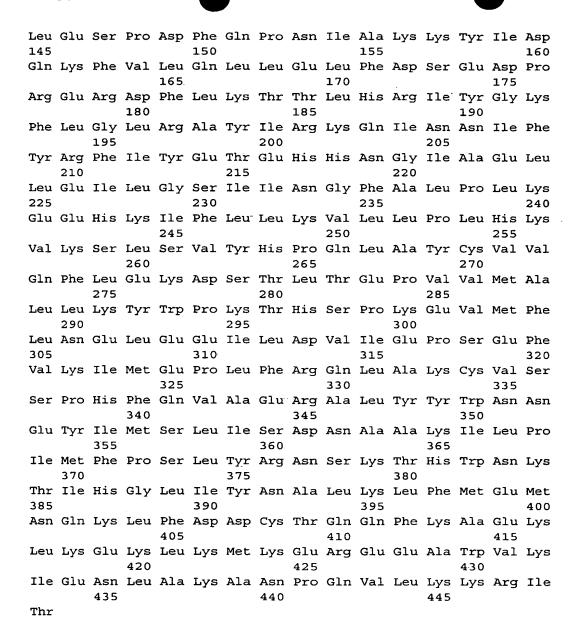
        <400> 146
Met Leu Thr Cys Asn Lys Ala Gly Ser Arg Met Val Val Asp Ala Ala
1               5                  10                 15
Asn Ser Asn Gly Pro Phe Gln Pro Val Val Leu Leu His Ile Arg Asp
            20              25                 30
Val Pro Pro Ala Asp Gln Glu Lys Leu Phe Ile Gln Lys Leu Arg Gln
        35              40                 45
Cys Cys Val Leu Phe Asp Phe Val Ser Asp Pro Leu Ser Asp Leu Lys
    50              55                 60
Trp Lys Glu Val Lys Arg Ala Ala Leu Ser Glu Met Val Glu Tyr Ile
65              70                 75                 80
Thr His Asn Arg Asn Val Ile Thr Glu Pro Ile Tyr Pro Glu Val Val
            85                 90                 95
His Met Phe Ala Val Asn Met Phe Arg Thr Leu Pro Pro Ser Ser Asn
            100                105                110
Pro Thr Gly Ala Glu Phe Asp Pro Glu Glu Asp Glu Pro Thr Leu Glu
        115                120                125
Ala Ala Trp Pro His Leu Gln Leu Val Tyr Glu Phe Phe Leu Arg Phe
    130                135                140
```

```
Leu Glu Ser Pro Asp Phe Gln Pro Asn Ile Ala Lys Lys Tyr Ile Asp
145             150             155             160
Gln Lys Phe Val Leu Gln Leu Leu Glu Leu Phe Asp Ser Glu Asp Pro
                165             170             175
Arg Glu Arg Asp Phe Leu Lys Thr Thr Leu His Arg Ile Tyr Gly Lys
            180             185             190
Phe Leu Gly Leu Arg Ala Tyr Ile Arg Lys Gln Ile Asn Asn Ile Phe
        195             200             205
Tyr Arg Phe Ile Tyr Glu Thr Glu His His Asn Gly Ile Ala Glu Leu
    210             215             220
Leu Glu Ile Leu Gly Ser Ile Ile Asn Gly Phe Ala Leu Pro Leu Lys
225             230             235             240
Glu Glu His Lys Ile Phe Leu Leu Lys Val Leu Leu Pro Leu His Lys
                245             250             255
Val Lys Ser Leu Ser Val Tyr His Pro Gln Leu Ala Tyr Cys Val Val
                260             265             270
Gln Phe Leu Glu Lys Asp Ser Thr Leu Thr Glu Pro Val Val Met Ala
        275             280             285
Leu Leu Lys Tyr Trp Pro Lys Thr His Ser Pro Lys Glu Val Met Phe
    290             295             300
Leu Asn Glu Leu Glu Glu Ile Leu Asp Val Ile Glu Pro Ser Glu Phe
305             310             315             320
Val Lys Ile Met Glu Pro Leu Phe Arg Gln Leu Ala Lys Cys Val Ser
                325             330             335
Ser Pro His Phe Gln Val Ala Glu Arg Ala Leu Tyr Tyr Trp Asn Asn
                340             345             350
Glu Tyr Ile Met Ser Leu Ile Ser Asp Asn Ala Ala Lys Ile Leu Pro
        355             360             365
Ile Met Phe Pro Ser Leu Tyr Arg Asn Ser Lys Thr His Trp Asn Lys
    370             375             380
Thr Ile His Gly Leu Ile Tyr Asn Ala Leu Lys Leu Phe Met Glu Met
385                 390             395             400
Asn Gln Lys Leu Phe Asp Asp Cys Thr Gln Gln Phe Lys Ala Glu Lys
                405             410             415
Leu Lys Glu Lys Leu Lys Met Lys Glu Arg Glu Glu Ala Trp Val Lys
            420             425             430
Ile Glu Asn Leu Ala Lys Ala Asn Pro Gln Val Leu Lys Lys Arg Ile
        435             440             445
Thr
```

```
<210> 147
<211> 1580
<212> DNA
<213> Homo Sapiens

<400> 147
atcccctccg gttttcctca gtctccacgt acgtccctca aagcgcgtcc taaaacccgg    60
ataaccggag cgctccccat ggaccacacg gagggcttgc ccgcggagga gccgcctgcg   120
catgctccat cgcctgggaa atttggtgag cggcctccac ctaaacgact tactagggaa   180
gctatgcgaa attatttaaa agagcgaggg gatcaaacag tacttattct tcatgcaaaa   240
gttgcacaga agtcatatgg aaatgaaaaa aggttttttt gcccacctcc ttgtgtatat   300
cttatgggca gcggatggaa gaaaaaaaaa gaacaaatgg aacgcgatgg ttgttctgaa   360
caagagtctc aaccgtgtgc atttattggg ataggaaata gtgaccaaga aatgcagcag   420
ctaaacttgg aaggaaagaa ctattgcaca gccaaaacat tgtatatatc tgactcagac   480
```

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```
aagcgaaagc acttcatttt ttctgtaaag atgttctatg gcaacagtga tgacattggt     540
gtgttcctca gcaagcggat aaaagtcatc tccaaacctt ccaaaaagaa gcagtcattg     600
aaaaatgctg acttatgcat tgcctcagga acaaaggtgg ctctgtttaa tcgactacga     660
tcccagacag ttagtaccag atacttgcat gtagaaggag gtaattttca tgccagttca     720
cagcagtggg gagccttttt tattcatctc ttggatgatg atgaatcaga aggagaagaa     780
ttcacagtcc gagatgtcta catccattat ggacaaacat gcaaacttgt gtgctcagtt     840
actggcatgg cactcccaag attgataatt atgaaagttg ataagcatac cgcattattg     900
gatgcagatg atcctgtgtc acaactccat aaatgtgcat tttaccttaa ggatacagaa     960
agaatgtatt tgtgcctttc tcaagaaaga ataattcaat ttcaggccac tccatgtcca    1020
aaagaaccaa ataaagagat gataaatgat ggcgcttcct ggacaatcat tagcacagat    1080
aaggcagagt atacatttta tgagggaatg ggccctgtcc ttgccccagt cactcctgtg    1140
cctgtggtag agagccttca gttgaatggc ggtggggacg tagcaatgct tgaacttaca    1200
ggacagaatt tcactccaaa tttacgagtg tggtttgggg atgtagaagc tgaaactatg    1260
tacaggtgtg gagagagtat gctctgtgtc gtcccagaca tttctgcatt ccgagaaggt    1320
tggagatggg tccggcaacc agtccaggtt ccagtaactt ggtccgaaa tgatggaatc     1380
atttattcca ccagccttac ctttacctac acaccagaac cagggccacg gccacattgc    1440
agtgtagcag gagcaatcct tccagccaat tcaagccagg tgccccctaa cgaatcaaac    1500
acaaacagcg agggaagtta cacaaacgcc agcacaaatt caaccagtgt cacatcatct    1560
acagccacag tggtatccta                                                 1580
```

<210> 148
<211> 500
<212> PRT
<213> Homo Sapiens

<400> 148

```
Met Asp His Thr Glu Gly Leu Pro Ala Glu Glu Pro Pro Ala His Ala
1               5                   10                  15
Pro Ser Pro Gly Lys Phe Gly Glu Arg Pro Pro Pro Lys Arg Leu Thr
            20                  25                  30
Arg Glu Ala Met Arg Asn Tyr Leu Lys Glu Arg Gly Asp Gln Thr Val
        35                  40                  45
Leu Ile Leu His Ala Lys Val Ala Gln Lys Ser Tyr Gly Asn Glu Lys
    50                  55                  60
Arg Phe Phe Cys Pro Pro Pro Cys Val Tyr Leu Met Gly Ser Gly Trp
65                  70                  75                  80
Lys Lys Lys Lys Glu Gln Met Glu Arg Asp Gly Cys Ser Glu Gln Glu
                85                  90                  95
Ser Gln Pro Cys Ala Phe Ile Gly Ile Gly Asn Ser Asp Gln Glu Met
            100                 105                 110
Gln Gln Leu Asn Leu Glu Gly Lys Asn Tyr Cys Thr Ala Lys Thr Leu
        115                 120                 125
Tyr Ile Ser Asp Ser Asp Lys Arg Lys His Phe Ile Phe Ser Val Lys
    130                 135                 140
Met Phe Tyr Gly Asn Ser Asp Asp Ile Gly Val Phe Leu Ser Lys Arg
145                 150                 155                 160
Ile Lys Val Ile Ser Lys Pro Ser Lys Lys Lys Gln Ser Leu Lys Asn
                165                 170                 175
Ala Asp Leu Cys Ile Ala Ser Gly Thr Lys Val Ala Leu Phe Asn Arg
            180                 185                 190
Leu Arg Ser Gln Thr Val Ser Thr Arg Tyr Leu His Val Glu Gly Gly
        195                 200                 205
Asn Phe His Ala Ser Ser Gln Gln Trp Gly Ala Phe Phe Ile His Leu
    210                 215                 220
Leu Asp Asp Asp Glu Ser Glu Gly Glu Glu Phe Thr Val Arg Asp Val
```

```
225                    230                    235                    240
Tyr Ile His Tyr Gly Gln Thr Cys Lys Leu Val Cys Ser Val Thr Gly
                245                    250                    255
Met Ala Leu Pro Arg Leu Ile Ile Met Lys Val Asp Lys His Thr Ala
                260                    265                    270
Leu Leu Asp Ala Asp Asp Pro Val Ser Gln Leu His Lys Cys Ala Phe
                275                    280                    285
Tyr Leu Lys Asp Thr Glu Arg Met Tyr Leu Cys Leu Ser Gln Glu Arg
     290                    295                    300
Ile Ile Gln Phe Gln Ala Thr Pro Cys Pro Lys Glu Pro Asn Lys Glu
305                    310                    315                    320
Met Ile Asn Asp Gly Ala Ser Trp Thr Ile Ile Ser Thr Asp Lys Ala
                325                    330                    335
Glu Tyr Thr Phe Tyr Glu Gly Met Gly Pro Val Leu Ala Pro Val Thr
                340                    345                    350
Pro Val Pro Val Val Glu Ser Leu Gln Leu Asn Gly Gly Gly Asp Val
                355                    360                    365
Ala Met Leu Glu Leu Thr Gly Gln Asn Phe Thr Pro Asn Leu Arg Val
     370                    375                    380
Trp Phe Gly Asp Val Glu Ala Glu Thr Met Tyr Arg Cys Gly Glu Ser
385                    390                    395                    400
Met Leu Cys Val Val Pro Asp Ile Ser Ala Phe Arg Glu Gly Trp Arg
                405                    410                    415
Trp Val Arg Gln Pro Val Gln Val Pro Val Thr Leu Val Arg Asn Asp
                420                    425                    430
Gly Ile Ile Tyr Ser Thr Ser Leu Thr Phe Thr Tyr Thr Pro Glu Pro
                435                    440                    445
Gly Pro Arg Pro His Cys Ser Val Ala Gly Ala Ile Leu Pro Ala Asn
     450                    455                    460
Ser Ser Gln Val Pro Pro Asn Glu Ser Asn Thr Asn Ser Glu Gly Ser
465                    470                    475                    480
Tyr Thr Asn Ala Ser Thr Asn Ser Thr Ser Val Thr Ser Ser Thr Ala
                485                    490                    495
Thr Val Val Ser
                500
```

```
        <210> 149
        <211> 1248
        <212> DNA
        <213> Homo Sapiens

        <400> 149
caagatatcg aattccaaat ttgagggcct cccggctctg gcgccggagg gagagctcag      60
gccgccatgc gcgacaggac ccacgagctg agacagggg atgacagctc ggacgaagag     120
gacaaggagc gggtcgcgct ggtggtgcac ccgggcacgg cacggctggg gagcccggac     180
gaggagttct tccacaaggt ccggacaatt cgtcagacta ttgtcaaact ggggaataaa     240
gtccaggagt tggagaaaca gcaggtcacc atcctggcca cgcccctcc cgaggagagc     300
atgaagcagg agctgcagaa cctgcgcgat gagatcaaac agctggggag ggagatccgc     360
ctgcagctga aggccataga gccccagaag gaggaagctg atgagaacta taactccgtc     420
aacacaagaa tgagaaaaac ccagcatggg gtcctgtccc agcaattcgt ggagctcatc     480
aacaagtgca attcaatgca gtccgaatac cgggagaaga acgtggagcg gattcggagg     540
cagctgaaga tcaccaatgc tggcatggtg tctgatgagg agttggatca gatgctggac     600
agtgggcaaa gcgaggtgtt tgtgtccaat atccttaagg acacgcaggt gactcgacag     660
gccttaaatg agatctcggc ccggcacagt gagatccagc agcttgaacg cagtattcgt     720
gagctgcacg acatattcac ttttctggct accgaagtgg agatgcaggg ggagatgatc     780
```

```
aatcggattg agaagaacat cctgagctca gcggactacg tggaacgtgg gcaggagcac      840
gtcaagacgg ccctggagaa ccagaagaag gtgaggaaga agaaagtctt gattgccatc      900
tgtgtgtcca tcaccgtcgt cctcctagca gtcatcattg gcgtcacagt ggttggataa      960
tgtcgcacat tgttggcact aggagcacca ggaacccagg gcctggcctt ctctcccagc     1020
agcctggggg gcaggcagag cctccagtcg gacccctccc tcacacactg gcccctatgc     1080
agaagggcag acagttcttc tggggttggc agctgctcat tcatgatggc ctcctccttc     1140
aggcctcaat gcctggggga ggcctgcact gtcctgattg ccgggacac  acggttttgt     1200
aaaaaattaa aaaacaaaaa aagagcatag aaaaaaaaa  aaccgagt                   1248
```

<210> 150
<211> 297
<212> PRT
<213> Homo Sapiens

<400> 150

```
Met Arg Asp Arg Thr His Glu Leu Arg Gln Gly Asp Asp Ser Ser Asp
 1               5                  10                  15
Glu Glu Asp Lys Glu Arg Val Ala Leu Val Val His Pro Gly Thr Ala
                20                  25                  30
Arg Leu Gly Ser Pro Asp Glu Glu Phe Phe His Lys Val Arg Thr Ile
                35                  40                  45
Arg Gln Thr Ile Val Lys Leu Gly Asn Lys Val Gln Glu Leu Glu Lys
            50                  55                  60
Gln Gln Val Thr Ile Leu Ala Thr Pro Leu Pro Glu Glu Ser Met Lys
65                  70                  75                  80
Gln Glu Leu Gln Asn Leu Arg Asp Glu Ile Lys Gln Leu Gly Arg Glu
                    85                  90                  95
Ile Arg Leu Gln Leu Lys Ala Ile Glu Pro Gln Lys Glu Glu Ala Asp
                100                 105                 110
Glu Asn Tyr Asn Ser Val Asn Thr Arg Met Arg Lys Thr Gln His Gly
                115                 120                 125
Val Leu Ser Gln Gln Phe Val Glu Leu Ile Asn Lys Cys Asn Ser Met
            130                 135                 140
Gln Ser Glu Tyr Arg Glu Lys Asn Val Glu Arg Ile Arg Arg Gln Leu
145                 150                 155                 160
Lys Ile Thr Asn Ala Gly Met Val Ser Asp Glu Glu Leu Asp Gln Met
                165                 170                 175
Leu Asp Ser Gly Gln Ser Glu Val Phe Val Ser Asn Ile Leu Lys Asp
                180                 185                 190
Thr Gln Val Thr Arg Gln Ala Leu Asn Glu Ile Ser Ala Arg His Ser
                195                 200                 205
Glu Ile Gln Gln Leu Glu Arg Ser Ile Arg Glu Leu His Asp Ile Phe
            210                 215                 220
Thr Phe Leu Ala Thr Glu Val Glu Met Gln Gly Glu Met Ile Asn Arg
225                 230                 235                 240
Ile Glu Lys Asn Ile Leu Ser Ser Ala Asp Tyr Val Glu Arg Gly Gln
                245                 250                 255
Glu His Val Lys Thr Ala Leu Glu Asn Gln Lys Lys Val Arg Lys Lys
                260                 265                 270
Lys Val Leu Ile Ala Ile Cys Val Ser Ile Thr Val Val Leu Leu Ala
                275                 280                 285
Val Ile Ile Gly Val Thr Val Val Gly
290                 295
```

<210> 151

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```
<211> 1953
<212> DNA
<213> Homo Sapiens

<400> 151
acgcctgcca ggagcaagcc gaagagccag ccggccggcg cactccgact ccgagcagtc      60
tctgtccttc gacccgagcc ccgcgccctt tccgggaccc ctgccccgcg ggcagcgctg     120
ccaacctgcc ggccatggag accccgtccc agcggcgcgc cacccgcagc ggggcgcagg     180
ccagctccac tccgctgtcg cccacccgca tcacccggct gcaggagaag gaggacctgc     240
aggagctcaa tgatcgcttg gcggtctaca tcgaccgtgt gcgctcgctg gaaacggaga     300
acgcagggct gcgccttcgc atcaccgagt ctgaagaggt ggtcagccgc gaggtgtccg     360
gcatcaaggc cgcctacgag gccgagctcg gggatgcccg caagaccctt gactcagtag     420
ccaaggagcg cgcccgcctg cagctggagc tgagcaaagt gcgtgaggag tttaaggagc     480
tgaaagcgcg caataccaag aaggagggtg acctgatagc tgctcaggct cggctgaagg     540
acctggaggc tctgctgaac tccaaggagg ccgcactgag cactgctctc agtgagaagc     600
gcacgctgga gggcgagctg catgatctgc ggggccaggt ggccaagctt gaggcagccc     660
taggtgaggc caagaagcaa cttcaggatg agatgctgcg gcgggtggat gctgagaaca     720
ggctgcagac catgaaggag gaactggact ccagaagaa catctacagt gaggagctgc     780
gtgagaccaa gcgccgtcat gagacccgac tggtggagat tgacaatggg aagcagcgtg     840
agtttgagag ccggctggcg gatgcgctgc aggaactgcg ggcccagcat gaggaccagg     900
tggagcagta taagaaggag ctggagaaga cttattctgc caagctggac aatgccaggc     960
agtctgctga gaggaacagc aacctggtgg gggctgccca cgaggagctg cagcagtcgc    1020
gcatccgcat cgacagcctc tctgcccagc tcagccagct ccagaagcag ctggcagcca    1080
aggaggcgaa gcttcgagac ctggaggact cactggcccg tgagcgggac accagccggc    1140
ggctgctggc ggaaaaggag cgggagatgg ccgagatgcg ggcaaggatg cagcagcagc    1200
tggacgagta ccaggagctt ctggacatca agctggccct ggacatggag atccacgcct    1260
accgcaagct cttggagggc gaggaggaga ggctacgcct gtcccccagc cctacctcgc    1320
agcgcagccg tggccgtgct tcctctcact catcccagac acagggtggg ggcagcgtca    1380
ccaaaaagcg caaactggag tccactgaga gccgcagcag cttctcacag cacgcacgca    1440
ctagcgggcg cgtggccgtg gaggaggtgg atgaggaggg caagtttgtc cggctgcgca    1500
acaagtccaa tgaggaccag tccatgggca attggcagat caagcgccag aatggagatg    1560
atcccttgct gacttaccgg ttcccaccaa agttcaccct gaaggctggg caggtggtga    1620
cgatctgggc tgcaggagct ggggccaccc acagcccccc taccgacctg gtgtggaagg    1680
cacagaacac ctggggctgc gggaacagcc tgcgtacggc tctcatcaac tccactgggg    1740
aagaagtggc catgcgcaag ctggtgcgct cagtgactgt ggttgaggac gacgaggatg    1800
aggatggaga tgacctgctc catcaccacc acgtgagtgg tagccgccgc tgaggccgag    1860
cctgcactgg ggccaccagc caggcctggg ggcagcctct ccccagcctc cccgtgccaa    1920
aaatcttttc attaaagaat gttttggaac ttt                                 1953

<210> 152
<211> 572
<212> PRT
<213> Homo Sapiens

<400> 152
Met Glu Thr Pro Ser Gln Arg Arg Ala Thr Arg Ser Gly Ala Gln Ala
1               5                   10                  15
Ser Ser Thr Pro Leu Ser Pro Thr Arg Ile Thr Arg Leu Gln Glu Lys
            20                  25                  30
Glu Asp Leu Gln Glu Leu Asn Asp Arg Leu Ala Val Tyr Ile Asp Arg
        35                  40                  45
Val Arg Ser Leu Glu Thr Glu Asn Ala Gly Leu Arg Leu Arg Ile Thr
    50                  55                  60
Glu Ser Glu Glu Val Val Ser Arg Glu Val Ser Gly Ile Lys Ala Ala
65                  70                  75                  80
```

```
Tyr Glu Ala Glu Leu Gly Asp Ala Arg Lys Thr Leu Asp Ser Val Ala
                  85                  90                  95
Lys Glu Arg Ala Arg Leu Gln Leu Glu Leu Ser Lys Val Arg Glu Glu
                 100                 105                 110
Phe Lys Glu Leu Lys Ala Arg Asn Thr Lys Lys Glu Gly Asp Leu Ile
                 115                 120                 125
Ala Ala Gln Ala Arg Leu Lys Asp Leu Glu Ala Leu Leu Asn Ser Lys
         130                 135                 140
Glu Ala Ala Leu Ser Thr Ala Leu Ser Glu Lys Arg Thr Leu Glu Gly
145                 150                 155                 160
Glu Leu His Asp Leu Arg Gly Gln Val Ala Lys Leu Glu Ala Ala Leu
                 165                 170                 175
Gly Glu Ala Lys Lys Gln Leu Gln Asp Glu Met Leu Arg Arg Val Asp
                 180                 185                 190
Ala Glu Asn Arg Leu Gln Thr Met Lys Glu Glu Leu Asp Phe Gln Lys
                 195                 200                 205
Asn Ile Tyr Ser Glu Glu Leu Arg Glu Thr Lys Arg Arg His Glu Thr
         210                 215                 220
Arg Leu Val Glu Ile Asp Asn Gly Lys Gln Arg Glu Phe Glu Ser Arg
225                 230                 235                 240
Leu Ala Asp Ala Leu Gln Glu Leu Arg Ala Gln His Glu Asp Gln Val
                 245                 250                 255
Glu Gln Tyr Lys Lys Glu Leu Glu Lys Thr Tyr Ser Ala Lys Leu Asp
                 260                 265                 270
Asn Ala Arg Gln Ser Ala Glu Arg Asn Ser Asn Leu Val Gly Ala Ala
         275                 280                 285
His Glu Glu Leu Gln Gln Ser Arg Ile Arg Ile Asp Ser Leu Ser Ala
         290                 295                 300
Gln Leu Ser Gln Leu Gln Lys Gln Leu Ala Ala Lys Glu Ala Lys Leu
305                 310                 315                 320
Arg Asp Leu Glu Asp Ser Leu Ala Arg Glu Arg Asp Thr Ser Arg Arg
                 325                 330                 335
Leu Leu Ala Glu Lys Glu Arg Glu Met Ala Glu Met Arg Ala Arg Met
                 340                 345                 350
Gln Gln Gln Leu Asp Glu Tyr Gln Glu Leu Leu Asp Ile Lys Leu Ala
         355                 360                 365
Leu Asp Met Glu Ile His Ala Tyr Arg Lys Leu Leu Glu Gly Glu Glu
         370                 375                 380
Glu Arg Leu Arg Leu Ser Pro Ser Pro Thr Ser Gln Arg Ser Arg Gly
385                 390                 395                 400
Arg Ala Ser Ser His Ser Ser Gln Thr Gln Gly Gly Gly Ser Val Thr
                 405                 410                 415
Lys Lys Arg Lys Leu Glu Ser Thr Glu Ser Arg Ser Ser Phe Ser Gln
                 420                 425                 430
His Ala Arg Thr Ser Gly Arg Val Ala Val Glu Glu Val Asp Glu Glu
         435                 440                 445
Gly Lys Phe Val Arg Leu Arg Asn Lys Ser Asn Glu Asp Gln Ser Met
         450                 455                 460
Gly Asn Trp Gln Ile Lys Arg Gln Asn Gly Asp Asp Pro Leu Leu Thr
465                 470                 475                 480
Tyr Arg Phe Pro Pro Lys Phe Thr Leu Lys Ala Gly Gln Val Val Thr
                 485                 490                 495
Ile Trp Ala Ala Gly Ala Gly Ala Thr His Ser Pro Pro Thr Asp Leu
         500                 505                 510
Val Trp Lys Ala Gln Asn Thr Trp Gly Cys Gly Asn Ser Leu Arg Thr
```

```
                515              .         520                         525
    Ala Leu Ile Asn Ser Thr Gly Glu Glu Val Ala Met Arg Lys Leu Val
                530                         535                         540
    Arg Ser Val Thr Val Val Glu Asp Asp Glu Asp Glu Asp Gly Asp Asp
    545                        550                         555                         560
    Leu Leu His His His His Val Ser Gly Ser Arg Arg
                        565                         570
```

```
    <210> 153
    <211> 1610
    <212> DNA
    <213> Homo Sapiens

    <400> 153
    ctgcaggaat tcggcacgag cggtcacgcc gagccagcgc ctgggcctgg aaccgggccg    60
    tagcccccca gtttcgccca ccacctccct accatggacc cccgcaaagt gaacgagctt   120
    cgggcctttg tgaaaatgtg taagcaggat ccgagcgttc tgtacaccga ggaaatgcgc   180
    ttcctgaggg agtgggtgga gagcataggt ggtaaagtac cacctgctac tcagaaagct   240
    atatcagaag aaaataccaa ggaagaaaaa cctgatagta agaaggtgga ggaagactta   300
    aaggcagacg aaccatcaag tgaggaaagt gatctagaaa ttgataaaga aggtgtgatt   360
    gaaccagaca ctgatgctcc tcaagaaatg ggagatgaaa atgcggagat aacggaggag   420
    atgatggatc aggcaaatga taaaaaagtg ctgctattg aagccctaaa tgatggtgaa   480
    ctccagaaag ccattgactt attcacagat gccatcaagc tgaatcctcg cttggccatt   540
    ttgtatgcca agagggccag tgtcttcgtc aaattacaga agccaaatgc tgccatccga   600
    gactgtgaca gagccattga aataaatcct gattcagctc agccttacaa gtggcggggg   660
    aaagcacaca gacttctagg ccactgggaa gaagcagccc atgatcttgc ccttgcctgt   720
    aaattggatt atgatgaaga tgctagtgca atgctgaaag aagttcaacc tagggcacag   780
    aaaattgcag aacatcggag aaagtatgag cgaaaacgtg aagagcgaga gatcaaagaa   840
    agaatagaac gagttaagaa ggctcgagaa gagcatgaga gagcccagag ggaggaagaa   900
    gccagacgac agtcaggagc tcagtatggc tcttttccag gtggctttcc tgggggaatg   960
    cctggtaatt ttcccggagg aatgcctgga atgggagggg gcatgcctgg aatggctgga  1020
    atgcctggac tcaatgaaat tcttagtgat ccagaggttc ttgcagccat gcaggatcca  1080
    gaagttatgg tggctttcca ggatgtggct cagaacccag caaatatgtc aaaataccag  1140
    agcaacccaa aggttatgaa tctcatcagt aaattgtcag ccaaatttgg aggtcaagcg  1200
    taatgtcctt ctgataaata aagcccttgc tgaggaaaaa gcaacctaga tcaccttatg  1260
    gatgtcgcaa taatacaaac cagtgtacct ctgaccttct catcaagaga gctggggtgc  1320
    tttgaagata tccctaccc ctctcccca aatgcagctg aagcatttta cagtggtttg  1380
    ccattagggt attcattcag ataatgtttt cctactagga attacaaact ttaaacactt  1440
    tttaaatctt caaatatttt aaaacaaatt taaagggcct gttaattctt atatttttct  1500
    ttactaatca ttttggattt ttttctttga attattggca gggaatatac ttatgtatgg  1560
    aagattactg ctctgagtga ataaaagtt attagtgcga ggcaaacata              1610
```

```
    <210> 154
    <211> 369
    <212> PRT
    <213> Homo Sapiens

    <400> 154
    Met Asp Pro Arg Lys Val Asn Glu Leu Arg Ala Phe Val Lys Met Cys
    1                        5                        10                        15
    Lys Gln Asp Pro Ser Val Leu Tyr Thr Glu Glu Met Arg Phe Leu Arg
                        20                        25                        30
    Glu Trp Val Glu Ser Ile Gly Gly Lys Val Pro Pro Ala Thr Gln Lys
                        35                        40                        45
    Ala Ile Ser Glu Glu Asn Thr Lys Glu Glu Lys Pro Asp Ser Lys Lys
```

```
          50                    55                    60
Val Glu Glu Asp Leu Lys Ala Asp Glu Pro Ser Ser Glu Glu Ser Asp
65                    70                    75                    80
Leu Glu Ile Asp Lys Glu Gly Val Ile Glu Pro Asp Thr Asp Ala Pro
                    85                    90                    95
Gln Glu Met Gly Asp Glu Asn Ala Glu Ile Thr Glu Glu Met Met Asp
                100                   105                   110
Gln Ala Asn Asp Lys Lys Val Ala Ala Ile Glu Ala Leu Asn Asp Gly
                115                   120                   125
Glu Leu Gln Lys Ala Ile Asp Leu Phe Thr Asp Ala Ile Lys Leu Asn
        130                   135                   140
Pro Arg Leu Ala Ile Leu Tyr Ala Lys Arg Ala Ser Val Phe Val Lys
145                   150                   155                   160
Leu Gln Lys Pro Asn Ala Ala Ile Arg Asp Cys Asp Arg Ala Ile Glu
                165                   170                   175
Ile Asn Pro Asp Ser Ala Gln Pro Tyr Lys Trp Arg Gly Lys Ala His
                180                   185                   190
Arg Leu Leu Gly His Trp Glu Glu Ala Ala His Asp Leu Ala Leu Ala
        195                   200                   205
Cys Lys Leu Asp Tyr Asp Glu Asp Ala Ser Ala Met Leu Lys Glu Val
        210                   215                   220
Gln Pro Arg Ala Gln Lys Ile Ala Glu His Arg Arg Lys Tyr Glu Arg
225                   230                   235                   240
Lys Arg Glu Glu Arg Glu Ile Lys Glu Arg Ile Glu Arg Val Lys Lys
                245                   250                   255
Ala Arg Glu Glu His Glu Arg Ala Gln Arg Glu Glu Glu Ala Arg Arg
                260                   265                   270
Gln Ser Gly Ala Gln Tyr Gly Ser Phe Pro Gly Gly Phe Pro Gly Gly
        275                   280                   285
Met Pro Gly Asn Phe Pro Gly Gly Met Pro Gly Met Gly Gly Gly Met
        290                   295                   300
Pro Gly Met Ala Gly Met Pro Gly Leu Asn Glu Ile Leu Ser Asp Pro
305                   310                   315                   320
Glu Val Leu Ala Ala Met Gln Asp Pro Glu Val Met Val Ala Phe Gln
                325                   330                   335
Asp Val Ala Gln Asn Pro Ala Asn Met Ser Lys Tyr Gln Ser Asn Pro
                340                   345                   350
Lys Val Met Asn Leu Ile Ser Lys Leu Ser Ala Lys Phe Gly Gly Gln
        355                   360                   365
Ala
```

```
<210> 155
<211> 1323
<212> DNA
<213> Homo Sapiens

<400> 155
cacaaaggca ccaaaccaca aaacgtcaca cgtaaacatc atacgtggca accacaagcc        60
aatcagttgg atatttcatt cattggtata catatggact gtaaggtgtc tttcaggttg       120
cagaaaagat ggaaaaaagg acatgtgcac tctgccccaa agatgtcgaa tataatgtcc       180
tgtactttgc acaatcagag aatatagctg ctcatgagaa ttgtttgctg tattcttcag       240
gacttgtgga atgtgaggat caggatccac ttaatcctga tagaagtttt gatgtggaat       300
cagtaaagaa agaaatccag agaggaagga agttgaaatg caaattttgt cataaaagag       360
gagccaccgt gggatgtgat ttaaaaaact gtaacaagaa ttaccacttt ttctgtgcca       420
```

```
agaaggacga cgcagttcca cagtctgatg gagttcgagg aatttataaa ctgctttgcc    480
agcaacatgc tcaattcccg atcatcgctc aaagtgctaa attttcagga gtgaaaagaa    540
aaagaggaag gaagaaaccc ctctcaggca atcatgtaca gccacccgaa acaatgaaat    600
gtaatacatt cataagacaa gtgaagaag agcatggcag acacacagat gcaactgtga    660
aagttccttt tcttaagaaa tgcaagggaa gcaggacttc ttaattactt acttgaagaa    720
atattagnca aagttcattc aattccagaa aaactcatgg atgagactta cttcagaatc    780
agactatgaa gaaatcggga gtgcactttt tgactgtaga ttgttcgaag acacatttgt    840
aaattttcaa gcagcaatag agaaaaaaat tcatgcatct caacaaggt ggcagcagtt    900
gaaggaagag attgagctac ttcaggactt aaaacaaacc ttgtgctctt ttcaagaaaa    960
tagagatctt atgtcaagtt ctacatcaat atcatccctg tcttattagg gattaccatt   1020
tcctaagcca agagtcatgt caaattgcaa tcaggctcaa aaccagagac caggctgtga   1080
aatccacaca tctttagaac tagtcgtctc ctcttggcct cagcagctct tccctgttct   1140
tactggttga catttttgatc actctttgca cactcttgtg tttttttgctc actgtcacac   1200
tcccagcacc tagtatgctc agtaaatgtt tgtggaataa gtgcataaaa tgttcttaac   1260
ctttgattct acttacagcc catgatagcc tcttagatat aataaatttg gattatacta   1320
aaa                                                                1323
```

```
<210> 156
<211> 191
<212> PRT
<213> Homo Sapiens


<400> 156
Met Glu Lys Arg Thr Cys Ala Leu Cys Pro Lys Asp Val Glu Tyr Asn
1               5                   10                  15
Val Leu Tyr Phe Ala Gln Ser Glu Asn Ile Ala Ala His Glu Asn Cys
            20                  25                  30
Leu Leu Tyr Ser Ser Gly Leu Val Glu Cys Glu Asp Gln Asp Pro Leu
        35                  40                  45
Asn Pro Asp Arg Ser Phe Asp Val Glu Ser Val Lys Lys Glu Ile Gln
    50                  55                  60
Arg Gly Arg Lys Leu Lys Cys Lys Phe Cys His Lys Arg Gly Ala Thr
65                  70                  75                  80
Val Gly Cys Asp Leu Lys Asn Cys Asn Lys Asn Tyr His Phe Phe Cys
                85                  90                  95
Ala Lys Lys Asp Asp Ala Val Pro Gln Ser Asp Gly Val Arg Gly Ile
            100                 105                 110
Tyr Lys Leu Leu Cys Gln Gln His Ala Gln Phe Pro Ile Ile Ala Gln
        115                 120                 125
Ser Ala Lys Phe Ser Gly Val Lys Arg Lys Arg Gly Arg Lys Lys Pro
    130                 135                 140
Leu Ser Gly Asn His Val Gln Pro Pro Glu Thr Met Lys Cys Asn Thr
145                 150                 155                 160
Phe Ile Arg Gln Val Lys Glu Glu His Gly Arg His Thr Asp Ala Thr
                165                 170                 175
Val Lys Val Pro Phe Leu Lys Lys Cys Lys Gly Ser Arg Thr Ser
            180                 185                 190
```

```
<210> 157
<211> 4065
<212> DNA
<213> Homo Sapiens


<400> 157
atgtcgactg gggacagttt tgagactcga tttgaaaaaa tggacaacct gctgcgggat    60
```

```
cccaaatcgg  aagtgaattc  ggattgtttg  ctggatggat  tggatgcttt  ggtatatgat     120
ttggattttc  ctgccttaag  aaaaaacaaa  aatattgaca  actttttaag  cagatataaa     180
gacacaataa  ataaaatcag  agatttacga  atgaaagctg  aagattatga  agtagtgaag     240
gtgattggta  gaggtgcatt  tggagaagtt  caattggtaa  ggcataaatc  caccaggaag     300
gtatatgcta  tgaagcttct  cagcaaattt  gaaatgataa  agagatctga  ttctgctttt     360
ttctgggaag  aaagggacat  catggctttt  gccaacagtc  cttgggttgt  tcagcttttt     420
tatgcattcc  aagatgatcg  ttatctctac  atggtgatgg  aatacatgcc  tggtggagat     480
cttgtaaact  taatgagcaa  ctatgatgtg  cctgaaaaat  gggcacgatt  ctatactgca     540
gaagtagttc  ttgcattgga  tgcaatccat  tccatgggtt  ttattcacag  agatgtgaag     600
cctgataaca  tgctgctgga  taaatctgga  catttgaagt  tagcagattt  tggtacttgt     660
atgaagatga  ataaggaagg  catggtacga  tgtgatacag  cggttggaac  acctgattat     720
atttcccctg  aagtattaaa  atcccaaggt  ggtgatggtt  attatggaag  agaatgtgac     780
tggtggtcgg  ttggggtatt  tttatacgaa  atgcttgtag  gtgatacacc  tttttatgca     840
gattctttgg  ttggaactta  cagtaaaatt  atgaaccata  aaaattcact  tacctttcct     900
gatgataatg  acatatcaaa  agaagcaaaa  aaccttattt  gtgccttcct  tactgacagg     960
gaagtgaggt  tagggcgaaa  tggtgtagaa  gaaatcaaac  gacatctctt  cttcaaaaat    1020
gaccagtggg  cttgggaaac  gctccgagac  actgtagcac  cagttgtacc  cgatttaagt    1080
agtgacattg  atactagtaa  ttttgatgac  ttggaagaag  ataaaggaga  ggaagaaaca    1140
ttccctattc  ctaaagcttt  cgttggcaat  caactacctt  ttgtaggatt  tacatattat    1200
agcaatcgta  gatacttatc  ttcagcaaat  cctaatgata  acagaactag  ctccaatgca    1260
gataaaagct  tgcaggaaag  tttgcaaaaa  acaatctata  agctggaaga  acagctgcat    1320
aatgaaatgc  agttaaaaga  tgaaatggag  cagaagtgca  gaacctcaaa  cataaaacta    1380
gacaagataa  tgaaagaatt  ggatgaagag  ggaaatcaaa  gaagaaatct  agaatctaca    1440
gtgtctcaga  ttgagaagga  gaaaatgttg  ctacagcata  gaattaatga  gtaccaaaga    1500
aaagctgaac  aggaaaatga  gaagagaaga  aatgtagaaa  atgaagtttc  tacattaaag    1560
gatcagttgg  aagacttaaa  gaaagtcagt  cagaattcac  agcttgctaa  tgagaagctg    1620
tcccagttac  aaaagcagct  agaagaagcc  aatgacttac  ttaggacaga  atcggacaca    1680
gctgtaagat  tgaggaagag  tcacacagag  atgagcaagt  caattagtca  gttagagtcc    1740
ctgaacagag  agttgcaaga  gagaaatcga  attttagaga  attctaagtc  acaaacagac    1800
aaagattatt  accagctgca  agctatatta  gaagctgaac  gaagagacag  aggtcatgat    1860
tctgagatga  ttggagacct  tcaagctcga  attacatctt  tacaagagga  ggtgaagcat    1920
ctcaaacata  atctcgaaaa  agtggaagga  gaaagaaaag  aggctcaaga  catgcttaat    1980
cactcagaaa  aggaaaagaa  taatttagag  atagatttaa  actacaaact  taaatcatta    2040
caacaacggt  tagaacaaga  ggtaaatgaa  cacaaagtaa  ccaaagctcg  tttaactgac    2100
aaacatcaat  ctattgaaga  ggcaaagtct  gtggcaatgt  gtgagatgga  aaaaaagctg    2160
aaagaagaaa  gagaagctcg  agagaaggct  gaaaatcggg  ttgttcagat  tgagaaacag    2220
tgttccatgc  tagacgttga  tctgaagcaa  tctcagcaga  aactagaaca  tttgactgga    2280
aataaagaaa  ggatggagga  tgaagttaag  aatctaaccc  tgcaactgga  gcaggaatca    2340
aataagcggc  tgttgttaca  aaatgaattg  aagactcaag  catttgaggc  agacaattta    2400
aaaggtttag  aaaagcagat  gaaacaggaa  ataaatactt  tattggaagc  aaagagatta    2460
ttagaatttg  agttagctca  gcttacgaaa  cagtatagag  gaaatgaagg  acagatgcgg    2520
gagctacaag  atcagcttga  agctgagcaa  tatttctcga  cactttataa  aacccaggta    2580
aaggaactta  agaagaaat  tgaagaaaaa  aacagagaaa  atttaaagaa  aatacaggaa    2640
ctacaaaatg  aaaaagaaac  tcttgctact  cagttggatc  tagcagaaac  aaaagctgag    2700
tctgagcagt  tggcgcgagg  ccttctggaa  gaacagtatt  ttgaattgac  gcaagaaagc    2760
aagaaagctg  cttcaagaaa  tagacaagag  attacagata  aagatcacac  tgttagtcgg    2820
cttgaagaag  caaacagcat  gctaaccaaa  gatattgaaa  tattaagaag  agagaatgaa    2880
gagctaacag  agaaaatgaa  gaaggcagag  gaagaatata  aactggagaa  ggaggaggag    2940
atcagtaatc  ttaaggctgc  ctttgaaaag  aatatcaaca  ctgaacgaac  ccttaaaaca    3000
caggctgtta  acaaattggc  agaaataatg  aatcgaaaag  attttaaaat  tgatagaaag    3060
aaagctaata  cacaagattt  gagaaagaaa  gaaaaggaaa  atcgaaagct  gcaactggaa    3120
ctcaaccaag  aaagagagaa  attcaaccag  atggtagtga  aacatcagaa  ggaactgaat    3180
gacatgcaag  cgcaattggt  agaagaatgt  gcacatagga  atgagcttca  gatgcagttg    3240
gccagcaaag  agagtgatat  tgagcaattg  cgtgctaaac  ttttggacct  ctcggattct    3300
acaagtgttg  ctagttttcc  tagtgctgat  gaaactgatg  gtaacctccc  agagtcaaga    3360
```

```
attgaaggtt ggctttcagt accaaataga ggaaatatca aacgatatgg ctggaagaaa    3420
cagtatgttg tggtaagcag caaaaaaatt ttgttctata atgacgaaca agataaggag    3480
caatccaatc catctatggt attggacata gataaactgt ttcacgttag acctgtaacc    3540
caaggagatg tgtatagagc tgaaactgaa gaaattccta aaatattcca gatactatat    3600
gcaaatgaag gtgaatgtag aaaagatgta gagatggaac cagtacaaca agctgaaaaa    3660
actaatttcc aaaatcacaa aggccatgag tttattccta cactctacca ctttcctgcc    3720
aattgtgatg cctgtgccaa acctctctgg catgttttta agccaccccc tgccctagag    3780
tgtcgaagat gccatgttaa gtgccacaga gatcacttag ataagaaaga ggacttaatt    3840
tgtccatgta aagtaagtta tgatgtaaca tcagcaagag atatgctgct gttagcatgt    3900
tctcaggatg aacaaaaaaa atgggtaact catttagtaa agaaaatccc taagaatcca    3960
ccatctggtt ttgttcgtgc ttcccctcga acgctttcta caagatccac tgcaaatcag    4020
tctttccgga aagtggtcaa aaatacatct ggaaaaacta gttaa                    4065
```

```
        <210> 158
        <211> 1354
        <212> PRT
        <213> Homo Sapiens

        <400> 158
Met Ser Thr Gly Asp Ser Phe Glu Thr Arg Phe Glu Lys Met Asp Asn
1               5                   10                  15
Leu Leu Arg Asp Pro Lys Ser Glu Val Asn Ser Asp Cys Leu Leu Asp
            20                  25                  30
Gly Leu Asp Ala Leu Val Tyr Asp Leu Asp Phe Pro Ala Leu Arg Lys
        35                  40                  45
Asn Lys Asn Ile Asp Asn Phe Leu Ser Arg Tyr Lys Asp Thr Ile Asn
    50                  55                  60
Lys Ile Arg Asp Leu Arg Met Lys Ala Glu Asp Tyr Glu Val Val Lys
65                  70                  75                  80
Val Ile Gly Arg Gly Ala Phe Gly Glu Val Gln Leu Val Arg His Lys
                85                  90                  95
Ser Thr Arg Lys Val Tyr Ala Met Lys Leu Leu Ser Lys Phe Glu Met
            100                 105                 110
Ile Lys Arg Ser Asp Ser Ala Phe Phe Trp Glu Glu Arg Asp Ile Met
        115                 120                 125
Ala Phe Ala Asn Ser Pro Trp Val Val Gln Leu Phe Tyr Ala Phe Gln
    130                 135                 140
Asp Asp Arg Tyr Leu Tyr Met Val Met Glu Tyr Met Pro Gly Gly Asp
145                 150                 155                 160
Leu Val Asn Leu Met Ser Asn Tyr Asp Val Pro Glu Lys Trp Ala Arg
                165                 170                 175
Phe Tyr Thr Ala Glu Val Val Leu Ala Leu Asp Ala Ile His Ser Met
            180                 185                 190
Gly Phe Ile His Arg Asp Val Lys Pro Asp Asn Met Leu Leu Asp Lys
        195                 200                 205
Ser Gly His Leu Lys Leu Ala Asp Phe Gly Thr Cys Met Lys Met Asn
    210                 215                 220
Lys Glu Gly Met Val Arg Cys Asp Thr Ala Val Gly Thr Pro Asp Tyr
225                 230                 235                 240
Ile Ser Pro Glu Val Leu Lys Ser Gln Gly Gly Asp Gly Tyr Tyr Gly
                245                 250                 255
Arg Glu Cys Asp Trp Trp Ser Val Gly Val Phe Leu Tyr Glu Met Leu
            260                 265                 270
Val Gly Asp Thr Pro Phe Tyr Ala Asp Ser Leu Val Gly Thr Tyr Ser
        275                 280                 285
```

```
Lys Ile Met Asn His Lys Asn Ser Leu Thr Phe Pro Asp Asp Asn Asp
    290               295           300
Ile Ser Lys Glu Ala Lys Asn Leu Ile Cys Ala Phe Leu Thr Asp Arg
305               310           315               320
Glu Val Arg Leu Gly Arg Asn Gly Val Glu Glu Ile Lys Arg His Leu
            325           330           335
Phe Phe Lys Asn Asp Gln Trp Ala Trp Glu Thr Leu Arg Asp Thr Val
            340           345           350
Ala Pro Val Val Pro Asp Leu Ser Ser Asp Ile Asp Thr Ser Asn Phe
            355           360           365
Asp Asp Leu Glu Glu Asp Lys Gly Glu Glu Glu Thr Phe Pro Ile Pro
    370           375           380
Lys Ala Phe Val Gly Asn Gln Leu Pro Phe Val Gly Phe Thr Tyr Tyr
385           390           395               400
Ser Asn Arg Arg Tyr Leu Ser Ser Ala Asn Pro Asn Asp Asn Arg Thr
            405           410           415
Ser Ser Asn Ala Asp Lys Ser Leu Gln Glu Ser Leu Gln Lys Thr Ile
            420           425           430
Tyr Lys Leu Glu Glu Gln Leu His Asn Glu Met Gln Leu Lys Asp Glu
    435           440           445
Met Glu Gln Lys Cys Arg Thr Ser Asn Ile Lys Leu Asp Lys Ile Met
    450           455           460
Lys Glu Leu Asp Glu Glu Gly Asn Gln Arg Arg Asn Leu Glu Ser Thr
465           470           475               480
Val Ser Gln Ile Glu Lys Glu Lys Met Leu Leu Gln His Arg Ile Asn
            485           490           495
Glu Tyr Gln Arg Lys Ala Glu Gln Glu Asn Glu Lys Arg Arg Asn Val
            500           505           510
Glu Asn Glu Val Ser Thr Leu Lys Asp Gln Leu Glu Asp Leu Lys Lys
    515           520           525
Val Ser Gln Asn Ser Gln Leu Ala Asn Glu Lys Leu Ser Gln Leu Gln
    530           535           540
Lys Gln Leu Glu Glu Ala Asn Asp Leu Leu Arg Thr Glu Ser Asp Thr
545           550           555               560
Ala Val Arg Leu Arg Lys Ser His Thr Glu Met Ser Lys Ser Ile Ser
            565           570           575
Gln Leu Glu Ser Leu Asn Arg Glu Leu Gln Glu Arg Asn Arg Ile Leu
            580           585           590
Glu Asn Ser Lys Ser Gln Thr Asp Lys Asp Tyr Tyr Gln Leu Gln Ala
            595           600           605
Ile Leu Glu Ala Glu Arg Arg Asp Arg Gly His Asp Ser Glu Met Ile
    610           615           620
Gly Asp Leu Gln Ala Arg Ile Thr Ser Leu Gln Glu Glu Val Lys His
625           630           635               640
Leu Lys His Asn Leu Glu Lys Val Glu Gly Glu Arg Lys Glu Ala Gln
            645           650           655
Asp Met Leu Asn His Ser Glu Lys Glu Lys Asn Asn Leu Glu Ile Asp
            660           665           670
Leu Asn Tyr Lys Leu Lys Ser Leu Gln Gln Arg Leu Glu Gln Glu Val
            675           680           685
Asn Glu His Lys Val Thr Lys Ala Arg Leu Thr Asp Lys His Gln Ser
    690           695           700
Ile Glu Glu Ala Lys Ser Val Ala Met Cys Glu Met Glu Lys Lys Leu
705           710           715               720
Lys Glu Glu Arg Glu Ala Arg Glu Lys Ala Glu Asn Arg Val Val Gln
```

```
                     725                    730                    735
Ile Glu Lys Gln Cys Ser Met Leu Asp Val Asp Leu Lys Gln Ser Gln
             740                    745                    750
Gln Lys Leu Glu His Leu Thr Gly Asn Lys Glu Arg Met Glu Asp Glu
             755                    760                    765
Val Lys Asn Leu Thr Leu Gln Leu Glu Gln Glu Ser Asn Lys Arg Leu
         770                    775                    780
Leu Leu Gln Asn Glu Leu Lys Thr Gln Ala Phe Glu Ala Asp Asn Leu
785                    790                    795                    800
Lys Gly Leu Glu Lys Gln Met Lys Gln Glu Ile Asn Thr Leu Leu Glu
             805                    810                    815
Ala Lys Arg Leu Leu Glu Phe Glu Leu Ala Gln Leu Thr Lys Gln Tyr
         820                    825                    830
Arg Gly Asn Glu Gly Gln Met Arg Glu Leu Gln Asp Gln Leu Glu Ala
         835                    840                    845
Glu Gln Tyr Phe Ser Thr Leu Tyr Lys Thr Gln Val Lys Glu Leu Lys
         850                    855                    860
Glu Glu Ile Glu Glu Lys Asn Arg Glu Asn Leu Lys Lys Ile Gln Glu
865                    870                    875                    880
Leu Gln Asn Glu Lys Glu Thr Leu Ala Thr Gln Leu Asp Leu Ala Glu
             885                    890                    895
Thr Lys Ala Glu Ser Glu Gln Leu Ala Arg Gly Leu Leu Glu Glu Gln
         900                    905                    910
Tyr Phe Glu Leu Thr Gln Glu Ser Lys Lys Ala Ala Ser Arg Asn Arg
         915                    920                    925
Gln Glu Ile Thr Asp Lys Asp His Thr Val Ser Arg Leu Glu Glu Ala
         930                    935                    940
Asn Ser Met Leu Thr Lys Asp Ile Glu Ile Leu Arg Arg Glu Asn Glu
945                    950                    955                    960
Glu Leu Thr Glu Lys Met Lys Lys Ala Glu Glu Glu Tyr Lys Leu Glu
             965                    970                    975
Lys Glu Glu Glu Ile Ser Asn Leu Lys Ala Ala Phe Glu Lys Asn Ile
             980                    985                    990
Asn Thr Glu Arg Thr Leu Lys Thr Gln Ala Val Asn Lys Leu Ala Glu
         995                    1000                   1005
Ile Met Asn Arg Lys Asp Phe Lys Ile Asp Arg Lys Lys Ala Asn Thr
         1010                   1015                   1020
Gln Asp Leu Arg Lys Lys Glu Lys Glu Asn Arg Lys Leu Gln Leu Glu
1025                   1030                   1035                   104
Leu Asn Gln Glu Arg Glu Lys Phe Asn Gln Met Val Val Lys His Gln
             1045                   1050                   1055
Lys Glu Leu Asn Asp Met Gln Ala Gln Leu Val Glu Glu Cys Ala His
         1060                   1065                   1070
Arg Asn Glu Leu Gln Met Gln Leu Ala Ser Lys Glu Ser Asp Ile Glu
         1075                   1080                   1085
Gln Leu Arg Ala Lys Leu Leu Asp Leu Ser Asp Ser Thr Ser Val Ala
         1090                   1095                   1100
Ser Phe Pro Ser Ala Asp Glu Thr Asp Gly Asn Leu Pro Glu Ser Arg
1105                   1110                   1115                   112
Ile Glu Gly Trp Leu Ser Val Pro Asn Arg Gly Asn Ile Lys Arg Tyr
             1125                   1130                   1135
Gly Trp Lys Lys Gln Tyr Val Val Val Ser Ser Lys Lys Ile Leu Phe
         1140                   1145                   1150
Tyr Asn Asp Glu Gln Asp Lys Glu Gln Ser Asn Pro Ser Met Val Leu
         1155                   1160                   1165
```

```
Asp Ile Asp Lys Leu Phe His Val Arg Pro Val Thr Gln Gly Asp Val
    1170              1175              1180
Tyr Arg Ala Glu Thr Glu Glu Ile Pro Lys Ile Phe Gln Ile Leu Tyr
1185              1190              1195                    120
Ala Asn Glu Gly Glu Cys Arg Lys Asp Val Glu Met Glu Pro Val Gln
              1205              1210              1215
Gln Ala Glu Lys Thr Asn Phe Gln Asn His Lys Gly His Glu Phe Ile
              1220              1225              1230
Pro Thr Leu Tyr His Phe Pro Ala Asn Cys Asp Ala Cys Ala Lys Pro
          1235              1240              1245
Leu Trp His Val Phe Lys Pro Pro Ala Leu Glu Cys Arg Arg Cys
    1250              1255              1260
His Val Lys Cys His Arg Asp His Leu Asp Lys Lys Glu Asp Leu Ile
1265              1270              1275                    128
Cys Pro Cys Lys Val Ser Tyr Asp Val Thr Ser Ala Arg Asp Met Leu
              1285              1290              1295
Leu Leu Ala Cys Ser Gln Asp Glu Gln Lys Lys Trp Val Thr His Leu
          1300              1305              1310
Val Lys Lys Ile Pro Lys Asn Pro Pro Ser Gly Phe Val Arg Ala Ser
          1315              1320              1325
Pro Arg Thr Leu Ser Thr Arg Ser Thr Ala Asn Gln Ser Phe Arg Lys
          1330              1335              1340
Val Val Lys Asn Thr Ser Gly Lys Thr Ser
1345              1350
```

```
        <210> 159
        <211> 683
        <212> DNA
        <213> Homo Sapiens

        <400> 159
acaagctgga gttcgagcct gacagtgagg acaagatctc ggactgtgag gaaggattga      60
gtaatgtggc acttgaatgc agtgagccaa gcacaagtgt atctgcttat gaccagttga     120
aggcaccggc atcccctggt gctggaaacc cacctgggac cccaaaggga aagagagagc     180
tgatgagcaa tggcccaggt tccattattg gtgctaaagc tgggaagaat tctggcaaaa     240
agaagggcct taacaatgaa ctgaacaacc ttccagtaat ctccaacatg acggctgcgt     300
tagacagttg ctcggcagca gacggcagtt tggctgctga gatgcctaaa ctggaagcag     360
aaggattaat tgacaagaaa aatttaggag ataaagaaaa gggcaaaaaa gctaacaact     420
gcaaaacgga caaaaacctc tctaaactga aaagtgcccg gcccattgcc cctgccccag     480
ccccactcc cccgcagcta atcgctatac ccactgcaac ctttacaacg accaccactg      540
ggacaatacc cggactgccc tccctcacaa caactgttgt tcaggctaca ccaaagagtc     600
ctccgttaaa acccattcaa ccaaagccca caattatggg agagcccatc accgtgaacc     660
cagctctggt gtcactcaaa gac                                            683
```

```
        <210> 160
        <211> 227
        <212> PRT
        <213> Homo Sapiens

        <400> 160
Lys Leu Glu Phe Glu Pro Asp Ser Glu Asp Lys Ile Ser Asp Cys Glu
1             5               10              15
Glu Gly Leu Ser Asn Val Ala Leu Glu Cys Ser Glu Pro Ser Thr Ser
          20              25              30
Val Ser Ala Tyr Asp Gln Leu Lys Ala Pro Ala Ser Pro Gly Ala Gly
```

```
                35                    40                    45
Asn Pro Pro Gly Thr Pro Lys Gly Lys Arg Glu Leu Met Ser Asn Gly
        50                    55                    60
Pro Gly Ser Ile Ile Gly Ala Lys Ala Gly Lys Asn Ser Gly Lys Lys
65                    70                    75                    80
Lys Gly Leu Asn Asn Glu Leu Asn Asn Leu Pro Val Ile Ser Asn Met
                85                    90                    95
Thr Ala Ala Leu Asp Ser Cys Ser Ala Ala Asp Gly Ser Leu Ala Ala
            100                   105                   110
Glu Met Pro Lys Leu Glu Ala Glu Gly Leu Ile Asp Lys Lys Asn Leu
            115                   120                   125
Gly Asp Lys Glu Lys Gly Lys Lys Ala Asn Asn Cys Lys Thr Asp Lys
        130          ·        135                   140
Asn Leu Ser Lys Leu Lys Ser Ala Arg Pro Ile Ala Pro Ala Pro Ala
145                   150                   155                   160
Pro Thr Pro Pro Gln Leu Ile Ala Ile Pro Thr Ala Thr Phe Thr Thr
                165                   170                   175
Thr Thr Thr Gly Thr Ile Pro Gly Leu Pro Ser Leu Thr Thr Thr Val
            180                   185                   190
Val Gln Ala Thr Pro Lys Ser Pro Pro Leu Lys Pro Ile Gln Pro Lys
            195                   200                   205
Pro Thr Ile Met Gly Glu Pro Ile Thr Val Asn Pro Ala Leu Val Ser
210                   215                   220
Leu Lys Asp
225


        <210> 161
        <211> 662
        <212> DNA
        <213> Homo Sapiens

        <400> 161
acccacagca gttgcacttg ctgagcaggc agcttgagga cccaaatggt agcttttcta    60
acgctgagat gagtgaactg agtgtggcac agaaaccaga aaaacttttg gagcgctgca   120
agtactggcc tgcttgtaaa aatggggatg agtgtgccta ccatcacccc atctcaccct   180
gcaaagcctt ccccaattgt aaatttgctg aaaaatgttt gtttgttcac ccaaattgta   240
aatatgatgc aaagtgtact aaaccagatt gtcccttcac tcatgtgagt agaagaattc   300
cagtactgtc tccaaaacca gttgcaccac cagcaccacc ttccagtagt cagctctgcc   360
gttacttccc tgcttgtaag aagatggaat gtccttcta  tcatccaaaa cattgtaggt   420
ttaacactca atgtacaaga ccggactgca cattctacca tcccaccatt aatgtcccac   480
cacgacatgc cttgaaatgg attcgacctc aaaccagcga atagcaccca gtcctgcctg   540
gcagaagatc atgcagtttg gaagttttca tgtctgatga aagatctcta cagaacttgt   600
caaatctttg aaacttggaa tatattgctt tcataaatatg aaggtttatt ggctatctaa   660
aa                                                                  662
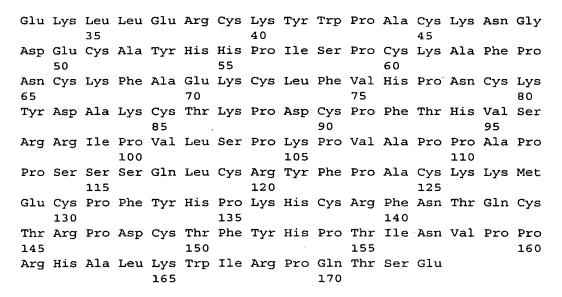

        <210> 162
        <211> 173
        <212> PRT
        <213> Homo Sapiens


        <400> 162
Pro Gln Gln Leu His Leu Leu Ser Arg Gln Leu Glu Asp Pro Asn Gly
1                   5                    10                   15
Ser Phe Ser Asn Ala Glu Met Ser Glu Leu Ser Val Ala Gln Lys Pro
            20                    25                    30
```

```
Glu Lys Leu Leu Glu Arg Cys Lys Tyr Trp Pro Ala Cys Lys Asn Gly
         35                  40                  45
Asp Glu Cys Ala Tyr His His Pro Ile Ser Pro Cys Lys Ala Phe Pro
         50                  55                  60
Asn Cys Lys Phe Ala Glu Lys Cys Leu Phe Val His Pro Asn Cys Lys
65                  70                  75                  80
Tyr Asp Ala Lys Cys Thr Lys Pro Asp Cys Pro Phe Thr His Val Ser
             85                  90                  95
Arg Arg Ile Pro Val Leu Ser Pro Lys Pro Val Ala Pro Pro Ala Pro
            100                 105                 110
Pro Ser Ser Ser Gln Leu Cys Arg Tyr Phe Pro Ala Cys Lys Lys Met
            115                 120                 125
Glu Cys Pro Phe Tyr His Pro Lys His Cys Arg Phe Asn Thr Gln Cys
            130                 135                 140
Thr Arg Pro Asp Cys Thr Phe Tyr His Pro Thr Ile Asn Val Pro Pro
145                 150                 155                 160
Arg His Ala Leu Lys Trp Ile Arg Pro Gln Thr Ser Glu
                 165                 170
```

```
         <210> 163
         <211> 2912
         <212> DNA
         <213> Homo Sapiens

         <400> 163
cagttgcttc agcgtcccgg tgtggctgtg ccgttggtcc tgtgcggtca cttagccaag    60
atgcctgagg aaacccagac ccaagaccaa ccgatggagg aggaggaggt tgagacgttc   120
gcctttcagg cagaaattgc ccagttgatg tcattgatca tcaatacttt ctactcgaac   180
aaagagatct ttctgagaga gctcatttca aattcatcag atgcattgga caaaatccgg   240
tatgaaactt tgacagatcc cagtaaatta gactctggga agagctgca  tattaacctt   300
ataccgaaca aacaagatcg aactctcact attgtggata ctggaattgg aatgaccaag   360
gctgacttga tcaataacct tggtactatc gccaagtctg ggaccaaagc gttcatggaa   420
gctttgcagg ctggtgcaga tatctctatg attggccagt cggtgttgg  ttttattct    480
gcttatttgg ttgctgagaa agtaactgtg atcaccaaac ataacgatga tgagcagtac   540
gcttgggagt cctcagcagg gggatcattc acagtgagga cagacacagg tgaacctatg   600
ggtcgtggaa caaaagttat cctacacctg aaagaagacc aaactgagta cttggaggaa   660
cgaagaataa aggagattgt gaagaaacat tctcagttta ttggatatcc cattactctt   720
tttgtggaga aggaacgtga taaagaagta agcgatgatg aggctgaaga aaaggaagac   780
aaagaagaag aaaaagaaaa agaagagaaa gagtcggaag acaaacctga aattgaagat   840
gttggttctg atgaggaaga agaaaagaag gatggtgaca agaagaagaa gaagaagatt   900
aaggaaaagt acatcgatca agaagagctc aacaaaacaa agcccatctg gaccagaaat   960
cccgacgata ttactaatga ggagtacgga gaattctata gagcttgac  caatgactgg  1020
gaagatcact tggcagtgaa gcattttca  gttgaaggac agttggaatt cagagccctt  1080
ctatttgtcc cacgacgtgc tccttttgat ctgtttgaaa acagaaagaa aaagaacaat  1140
atcaaattgt atgtacgcag agttttcatc atggataact gtgaggagct aatccctgaa  1200
tatctgaact tcattagagg ggtggtagac tcggaggatc tccctctaaa catatcccgt  1260
gagatgttgc aacaaagcaa aattttgaaa gttatcagga agaatttggt caaaaaatgc  1320
ttagaactct ttactgaact ggcggaagat aaagagaact acaagaaatt ctatgagcag  1380
ttctctaaaa acataaagct tggaatacac gaagactctc aaaatcggaa gaagctttca  1440
gagctgttaa ggtactacac atctgcctct ggtgatgaga tggtttctct caaggactac  1500
tgcaccagaa tgaaggagaa ccagaaacat atctattata tcacaggtga gaccaaggac  1560
caggtagcta actcagcctt gtggaacgt  cttcggaaac atggcttaga agtgatctat  1620
atgattgagc ccattgatga gtactgtgtc caacagctga aggaatttga ggggaagact  1680
ttagtgtcag tcaccaaaga aggcctggaa cttccagagg atgaagaaga gaaaaagaag  1740
caggaagaga aaaaacaaa  gtttgagaac ctctgcaaaa tcatgaaaga catattggag  1800
```

                                -124-

```
aaaaaagttg aaaaggtggt tgtgtcaaac cgattggtga catctccatg ctgtattgtc   1860
acaagcacat atggctggac agcaaacatg gagagaatca tgaaagctca agccctaaga   1920
gacaactcaa caatgggtta catggcagca aagaaacacc tggagataaa ccctgaccat   1980
tccattattg agaccttaag gcaaaaggca gaggctgata agaacgacaa gtctgtgaag   2040
gatctggtca tcttgcttta tgaaactgcg ctcctgtctt ctggcttcag tctggaagat   2100
ccccagacac atgctaacag gatctacagg atgatcaaac ttggtctggg tattgatgaa   2160
gatgacccta ctgctgatga taccagtgct gctgtaactg aagaaatgcc accccttgaa   2220
ggagatgacg acacatcacg catggaagaa gtagactaat ctctggctga gggatgactt   2280
acctgttcag tactctacaa ttcctctgat aatatatttt caaggatgtt tttctttatt   2340
tttgttaata ttaaaaagtc tgtatggcat gacaactact ttaaggggaa gataagattt   2400
ctgtctacta agtgatgctg tgatacctta ggcactaaag cagagctagt aatgcttttt   2460
gagtttcatg ttggttcttt cacagatggg gtaacgtgca ctgtaagacg tatgtaacat   2520
gatgttaact ttgtgtggtc taaagtgttt agctgtcaag ccggatgcct aagtagacca   2580
aatcttgtta ttgaagtgtt ctgagctgta tcttgatgtt tagaaaagta ttcgttacat   2640
cttgtaggat ctacttttg aacttttcat tccctgtagt tgacaattct gcatgtacta   2700
gtcctctaga aataggttaa actgaagcaa cttgatggaa ggatctctcc acagggcttg   2760
ttttccaaag aaaagtattg tttggaggag caaagttaaa agcctaccta agcatatcgt   2820
aaagctgttc aaatactcga gcccagtctt gtggatggaa atgtagtgct cgagtcacat   2880
tctgcttaaa gttgtaacaa atacagatga gt                                 2912
```

        <210> 164
        <211> 732
        <212> PRT
        <213> Homo Sapiens

        <400> 164
```
Met Pro Glu Glu Thr Gln Thr Gln Asp Gln Pro Met Glu Glu Glu
1               5                   10                  15
Val Glu Thr Phe Ala Phe Gln Ala Glu Ile Ala Gln Leu Met Ser Leu
                20                  25                  30
Ile Ile Asn Thr Phe Tyr Ser Asn Lys Glu Ile Phe Leu Arg Glu Leu
            35                  40                  45
Ile Ser Asn Ser Ser Asp Ala Leu Asp Lys Ile Arg Tyr Glu Thr Leu
        50                  55                  60
Thr Asp Pro Ser Lys Leu Asp Ser Gly Lys Glu Leu His Ile Asn Leu
65                  70                  75                  80
Ile Pro Asn Lys Gln Asp Arg Thr Leu Thr Ile Val Asp Thr Gly Ile
                85                  90                  95
Gly Met Thr Lys Ala Asp Leu Ile Asn Asn Leu Gly Thr Ile Ala Lys
                100                 105                 110
Ser Gly Thr Lys Ala Phe Met Glu Ala Leu Gln Ala Gly Ala Asp Ile
            115                 120                 125
Ser Met Ile Gly Gln Phe Gly Val Gly Phe Tyr Ser Ala Tyr Leu Val
        130                 135                 140
Ala Glu Lys Val Thr Val Ile Thr Lys His Asn Asp Asp Glu Gln Tyr
145                 150                 155                 160
Ala Trp Glu Ser Ser Ala Gly Gly Ser Phe Thr Val Arg Thr Asp Thr
                165                 170                 175
Gly Glu Pro Met Gly Arg Gly Thr Lys Val Ile Leu His Leu Lys Glu
                180                 185                 190
Asp Gln Thr Glu Tyr Leu Glu Glu Arg Arg Ile Lys Glu Ile Val Lys
            195                 200                 205
Lys His Ser Gln Phe Ile Gly Tyr Pro Ile Thr Leu Phe Val Glu Lys
        210                 215                 220
Glu Arg Asp Lys Glu Val Ser Asp Asp Glu Ala Glu Glu Lys Glu Asp
```

```
225                    230                    235                    240
Lys Glu Glu Glu Lys Glu Lys Glu Glu Lys Glu Ser Glu Asp Lys Pro
                    245                    250                    255
Glu Ile Glu Asp Val Gly Ser Asp Glu Glu Glu Glu Lys Lys Asp Gly
                    260                    265                    270
Asp Lys Lys Lys Lys Lys Lys Ile Lys Glu Lys Tyr Ile Asp Gln Glu
                    275                    280                    285
Glu Leu Asn Lys Thr Lys Pro Ile Trp Thr Arg Asn Pro Asp Asp Ile
     290                    295                    300
Thr Asn Glu Glu Tyr Gly Glu Phe Tyr Lys Ser Leu Thr Asn Asp Trp
305                    310                    315                    320
Glu Asp His Leu Ala Val Lys His Phe Ser Val Glu Gly Gln Leu Glu
                    325                    330                    335
Phe Arg Ala Leu Leu Phe Val Pro Arg Arg Ala Pro Phe Asp Leu Phe
                    340                    345                    350
Glu Asn Arg Lys Lys Lys Asn Asn Ile Lys Leu Tyr Val Arg Arg Val
                    355                    360                    365
Phe Ile Met Asp Asn Cys Glu Glu Leu Ile Pro Glu Tyr Leu Asn Phe
     370                    375                    380
Ile Arg Gly Val Val Asp Ser Glu Asp Leu Pro Leu Asn Ile Ser Arg
385                    390                    395                    400
Glu Met Leu Gln Gln Ser Lys Ile Leu Lys Val Ile Arg Lys Asn Leu
                    405                    410                    415
Val Lys Lys Cys Leu Glu Leu Phe Thr Glu Leu Ala Glu Asp Lys Glu
                    420                    425                    430
Asn Tyr Lys Lys Phe Tyr Glu Gln Phe Ser Lys Asn Ile Lys Leu Gly
                    435                    440                    445
Ile His Glu Asp Ser Gln Asn Arg Lys Lys Leu Ser Glu Leu Leu Arg
     450                    455                    460
Tyr Tyr Thr Ser Ala Ser Gly Asp Glu Met Val Ser Leu Lys Asp Tyr
465                    470                    475                    480
Cys Thr Arg Met Lys Glu Asn Gln Lys His Ile Tyr Tyr Ile Thr Gly
                    485                    490                    495
Glu Thr Lys Asp Gln Val Ala Asn Ser Ala Phe Val Glu Arg Leu Arg
                    500                    505                    510
Lys His Gly Leu Glu Val Ile Tyr Met Ile Glu Pro Ile Asp Glu Tyr
     515                    520                    525
Cys Val Gln Gln Leu Lys Glu Phe Glu Gly Lys Thr Leu Val Ser Val
     530                    535                    540
Thr Lys Glu Gly Leu Glu Leu Pro Glu Asp Glu Glu Glu Lys Lys Lys
545                    550                    555                    560
Gln Glu Glu Lys Lys Thr Lys Phe Glu Asn Leu Cys Lys Ile Met Lys
                    565                    570                    575
Asp Ile Leu Glu Lys Lys Val Glu Lys Val Val Val Ser Asn Arg Leu
                    580                    585                    590
Val Thr Ser Pro Cys Cys Ile Val Thr Ser Thr Tyr Gly Trp Thr Ala
     595                    600                    605
Asn Met Glu Arg Ile Met Lys Ala Gln Ala Leu Arg Asp Asn Ser Thr
     610                    615                    620
Met Gly Tyr Met Ala Ala Lys Lys His Leu Glu Ile Asn Pro Asp His
625                    630                    635                    640
Ser Ile Ile Glu Thr Leu Arg Gln Lys Ala Glu Ala Asp Lys Asn Asp
                    645                    650                    655
Lys Ser Val Lys Asp Leu Val Ile Leu Leu Tyr Glu Thr Ala Leu Leu
                    660                    665                    670
```

```
Ser Ser Gly Phe Ser Leu Glu Asp Pro Gln Thr His Ala Asn Arg Ile
        675                 680                 685
Tyr Arg Met Ile Lys Leu Gly Leu Gly Ile Asp Glu Asp Asp Pro Thr
        690                 695                 700
Ala Asp Asp Thr Ser Ala Ala Val Thr Glu Glu Met Pro Pro Leu Glu
705                 710                 715                 720
Gly Asp Asp Asp Thr Ser Arg Met Glu Glu Val Asp
                725                 730
```

```
        <210> 165
        <211> 790
        <212> DNA
        <213> Homo Sapiens

        <400> 165
ccgactcaga aatggcggcc tccatgttct acggcaggct agtggccgtg gccacccttc      60
ggaaccaccg gcctcggacg gcccagcggg ctgctgctca ggttctggga agttctggat     120
tgtttaataa ccatggactc caagtacagc agcaacagca aaggaatctc tcactacatg     180
aatacatgag tatggaatta ttgcaagaag ctggtgtctc cgttcccaaa ggatatgtgg     240
caaagtcacc agatgaagct tatgcaattg ccaaaaaatt aggttcaaaa gatgtcgtga     300
taaaggcaca ggttttagct ggtggtagag gaaaaggaac atttgaaagt ggcctcaaag     360
gaggagtgaa gatagttttc tctccagaag aagcaaaagc tgtttcttca caaatgattg     420
ggaaaaaatt gtttaccaag caaacgggag aaaagggcag aatatgcaat caagtattgg     480
tctgtgagcg aaaatatccc aggagagaat actactttgc aataacaatg gaaaggtcat     540
ttcaaggtcc tgtattaata ggaagttcac atggtggtgt caacattgaa gatgttgctg     600
ctgagtctcc tgaagcaata attaaagaac ctattgatat tgaagaaggc atcaaaaagg     660
aacaagctct tcagcttgca cagaagaatg ggatttcccc taatattgng ggaatcagca     720
gcaggaaaac atggtcaagc tttacagncn ttttcttgaa atacgatgca accccttgata    780
ggaaattaaa                                                             790
```

```
        <210> 166
        <211> 259
        <212> PRT
        <213> Homo Sapiens
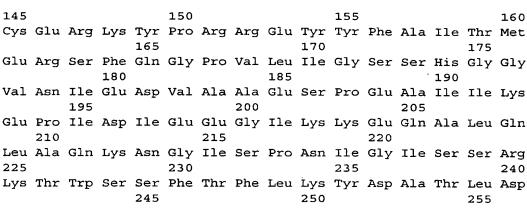
        <400> 166
Asp Ser Glu Met Ala Ala Ser Met Phe Tyr Gly Arg Leu Val Ala Val
1               5                   10                  15
Ala Thr Leu Arg Asn His Arg Pro Arg Thr Ala Gln Arg Ala Ala Ala
        20                  25                  30
Gln Val Leu Gly Ser Ser Gly Leu Phe Asn Asn His Gly Leu Gln Val
        35                  40                  45
Gln Gln Gln Gln Gln Arg Asn Leu Ser Leu His Glu Tyr Met Ser Met
        50                  55                  60
Glu Leu Leu Gln Glu Ala Gly Val Ser Val Pro Lys Gly Tyr Val Ala
65                  70                  75                  80
Lys Ser Pro Asp Glu Ala Tyr Ala Ile Ala Lys Lys Leu Gly Ser Lys
                85                  90                  95
Asp Val Val Ile Lys Ala Gln Val Leu Ala Gly Gly Arg Gly Lys Gly
            100                 105                 110
Thr Phe Glu Ser Gly Leu Lys Gly Gly Val Lys Ile Val Phe Ser Pro
        115                 120                 125
Glu Glu Ala Lys Ala Val Ser Ser Gln Met Ile Gly Lys Lys Leu Phe
        130                 135                 140
Thr Lys Gln Thr Gly Glu Lys Gly Arg Ile Cys Asn Gln Val Leu Val
```

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```
145                 150                 155                 160
Cys Glu Arg Lys Tyr Pro Arg Arg Glu Tyr Tyr Phe Ala Ile Thr Met
                165                 170                 175
Glu Arg Ser Phe Gln Gly Pro Val Leu Ile Gly Ser Ser His Gly Gly
                180                 185                  190
Val Asn Ile Glu Asp Val Ala Ala Glu Ser Pro Glu Ala Ile Ile Lys
                195                 200                 205
Glu Pro Ile Asp Ile Glu Glu Gly Ile Lys Lys Glu Gln Ala Leu Gln
        210                 215                 220
Leu Ala Gln Lys Asn Gly Ile Ser Pro Asn Ile Gly Ile Ser Ser Arg
225                 230                 235                 240
Lys Thr Trp Ser Ser Phe Thr Phe Leu Lys Tyr Asp Ala Thr Leu Asp
                245                 250                 255
Arg Lys Leu
```

```
<210> 167
<211> 5307
<212> DNA
<213> Homo Sapiens

<400> 167
gaataacagt taagttttgg ggagtaaaaa ctgtttcaat ttttgactgt gttggggggtt       60
ggtgctccta atccctgtgt tgttaaaggg tcgactatat tgtatttttg aaaattgcta      120
gagagtggac gtaaagtgtt ctcactaaac aaattataac tatgtgaggt agtgcatata      180
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● ●

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<211> 1148
<212> PRT
<213> Homo Sapiens

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                20                  25                  30
Ala Pro Gly Asn Ser Asn Pro Ser Leu Ser Val Pro Ser Ser Ala Glu
            35                  40                  45
Ser Glu Lys Gln Thr Arg Gln Ala Pro Lys Arg Lys Ser Val Arg Arg
        50                  55                  60
Gly Arg Lys Pro Pro Leu Leu Lys Lys Lys Leu Arg Ser Ser Val Ala
65                  70                  75                  80
Ala Pro Glu Lys Ser Ser Ser Asn Asp Ser Val Asp Glu Glu Thr Ala
                85                  90                  95
Glu Ser Asp Thr Ser Pro Val Leu Glu Lys Glu His Gln Pro Asp Val
                100                 105                 110
Asp Ser Ser Asn Ile Cys Thr Val Gln Thr His Val Glu Asn Gln Ser
            115                 120                 125
Ala Asn Cys Leu Lys Ser Cys Asn Glu Gln Ile Glu Glu Ser Glu Lys
        130                 135                 140
His Thr Ala Asn Tyr Asp Thr Glu Glu Arg Val Gly Ser Ser Ser Ser
145                 150                 155                 160
Glu Ser Cys Ala Gln Asp Leu Pro Val Leu Val Gly Glu Glu Gly Glu
                165                 170                 175
Val Lys Lys Leu Glu Asn Thr Gly Ile Glu Ala Asn Val Leu Cys Leu
            180                 185                 190
Glu Ser Glu Ile Ser Glu Asn Ile Leu Glu Lys Gly Gly Asp Pro Leu
        195                 200                 205
Glu Lys Gln Asp Gln Ile Ser Gly Leu Ser Gln Ser Glu Val Lys Thr
    210                 215                 220
Asp Val Cys Thr Val His Leu Pro Asn Asp Phe Pro Thr Cys Leu Thr
225                 230                 235                 240
Ser Glu Ser Lys Val Tyr Gln Pro Val Ser Cys Pro Leu Ser Asp Leu
                245                 250                 255
Ser Glu Asn Val Glu Ser Val Val Asn Glu Glu Lys Ile Thr Glu Ser
                260                 265                 270
Ser Leu Val Glu Ile Thr Glu His Lys Asp Phe Thr Leu Lys Thr Glu
            275                 280                 285
Glu Leu Ile Glu Ser Pro Lys Leu Glu Ser Ser Glu Gly Glu Ile Ile
        290                 295                 300
Gln Thr Val Asp Arg Gln Ser Val Lys Ser Pro Glu Val Gln Leu Leu
305                 310                 315                 320
Gly His Val Glu Thr Glu Asp Val Glu Ile Ile Ala Thr Cys Asp Thr
                325                 330                 335
Phe Gly Asn Glu Asp Phe Asn Asn Ile Gln Asp Ser Glu Asn Asn Leu
                340                 345                 350
Leu Lys Asn Asn Leu Leu Asn Thr Lys Leu Glu Lys Ser Leu Glu Glu
```

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               355                    360                    365
Lys Asn Glu Ser Leu Thr Glu His Pro Arg Ser Thr Glu Leu Pro Lys
    370                    375                    380
Thr His Ile Glu Gln Ile Gln Lys His Phe Ser Glu Asp Asn Asn Glu
385                    390                    395                    400
Met Ile Pro Met Glu Cys Asp Ser Phe Cys Ser Asp Gln Asn Glu Ser
                405                    410                    415
Glu Val Glu Pro Ser Val Asn Ala Asp Leu Lys Gln Met Asn Glu Asn
                420                    425                    430
Ser Val Thr His Cys Ser Glu Asn Asn Met Pro Ser Ser Asp Leu Ala
            435                    440                    445
Asp Glu Lys Val Glu Thr Val Ser Gln Pro Ser Glu Ser Pro Lys Asp
    450                    455                    460
Thr Ile Asp Lys Thr Lys Lys Pro Arg Thr Arg Arg Ser Arg Phe His
465                    470                    475                    480
Ser Pro Ser Thr Thr Trp Ser Pro Asn Lys Asp Thr Pro Gln Glu Lys
                485                    490                    495
Lys Arg Pro Gln Ser Pro Ser Pro Arg Arg Glu Thr Gly Lys Glu Ser
            500                    505                    510
Arg Lys Ser Gln Ser Pro Ser Pro Lys Asn Glu Ser Ala Arg Gly Arg
    515                    520                    525
Lys Lys Ser Arg Ser Gln Ser Pro Lys Lys Asp Ile Ala Arg Glu Arg
    530                    535                    540
Arg Gln Ser Gln Ser Arg Ser Pro Lys Arg Asp Thr Thr Arg Glu Ser
545                    550                    555                    560
Arg Arg Ser Glu Ser Leu Ser Pro Arg Arg Glu Thr Ser Arg Glu Asn
                565                    570                    575
Lys Arg Ser Gln Pro Arg Val Lys Asp Ser Ser Pro Gly Glu Lys Ser
            580                    585                    590
Arg Ser Gln Ser Arg Glu Arg Glu Ser Asp Arg Asp Gly Gln Arg Arg
    595                    600                    605
Glu Arg Glu Arg Arg Thr Arg Lys Trp Ser Arg Ser Arg Ser His Ser
    610                    615                    620
Arg Ser Pro Ser Arg Cys Arg Thr Lys Ser Lys Ser Ser Ser Phe Gly
625                    630                    635                    640
Arg Ile Asp Arg Asp Ser Tyr Ser Pro Arg Trp Lys Gly Arg Trp Ala
                645                    650                    655
Asn Asp Gly Trp Arg Cys Pro Arg Gly Asn Asp Arg Tyr Arg Lys Asn
            660                    665                    670
Asp Pro Glu Lys Gln Asn Glu Asn Thr Arg Lys Glu Lys Asn Asp Ile
            675                    680                    685
His Leu Asp Ala Asp Asp Pro Asn Ser Ala Asp Lys His Arg Asn Asp
            690                    695                    700
Cys Pro Asn Trp Ile Thr Glu Lys Ile Asn Ser Gly Pro Asp Pro Arg
705                    710                    715                    720
Thr Arg Asn Pro Glu Lys Leu Lys Glu Ser His Trp Glu Glu Asn Arg
                725                    730                    735
Asn Glu Asn Ser Gly Asn Ser Trp Asn Lys Asn Phe Gly Ser Gly Trp
            740                    745                    750
Val Ser Asn Arg Gly Arg Gly Arg Gly Asn Arg Gly Arg Gly Thr Tyr
    755                    760                    765
Arg Ser Ser Phe Ala Tyr Lys Asp Gln Asn Glu Asn Arg Trp Gln Asn
    770                    775                    780
Arg Lys Pro Leu Ser Gly Asn Ser Asn Ser Ser Gly Ser Glu Ser Phe
785                    790                    795                    800
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Lys Phe Val Glu Gln Gln Ser Tyr Lys Arg Lys Ser Glu Gln Glu Phe
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Ser Phe Asp Thr Pro Ala Asp Arg Ser Gly Trp Thr Ser Ala Ser Ser
              820                 825                 830
Trp Ala Val Arg Lys Thr Leu Pro Ala Asp Val Gln Asn Tyr Tyr Ser
              835                 840                 845
Arg Arg Gly Arg Asn Ser Ser Gly Pro Gln Ser Gly Trp Met Lys Gln
850                 855                 860
Glu Glu Glu Thr Ser Gly Gln Asp Ser Ser Leu Lys Asp Gln Thr Asn
865                 870                 875                 880
Gln Gln Val Asp Gly Ser Gln Leu Pro Ile Asn Met Met Gln Pro Gln
              885                 890                 895
Met Asn Val Met Gln Gln Met Asn Ala Gln His Gln Pro Met Asn
              900                 905                 910
Ile Phe Pro Tyr Pro Val Gly Val His Ala Pro Leu Met Asn Ile Gln
              915                 920                 925
Arg Asn Pro Phe Asn Ile His Pro Gln Leu Pro Leu His Leu His Thr
              930                 935                 940
Gly Val Pro Leu Met Gln Val Ala Thr Pro Thr Ser Val Ser Gln Gly
945                 950                 955                 960
Leu Pro Pro Pro Pro Pro Pro Pro Pro Ser Gln Gln Val Asn Tyr
              965                 970                 975
Ile Ala Ser Gln Pro Asp Gly Lys Gln Leu Gln Gly Ile Pro Ser Ser
              980                 985                 990
Ser His Val Ser Asn Asn Met Ser Thr Pro Val Leu Pro Ala Pro Thr
              995                 1000                1005
Ala Ala Pro Gly Asn Thr Gly Met Val Gln Gly Pro Ser Ser Gly Asn
              1010                1015                1020
Thr Ser Ser Ser Ser His Ser Lys Ala Ser Asn Ala Ala Val Lys Leu
1025                1030                1035                104
Ala Glu Ser Lys Val Ser Val Ala Val Glu Ala Ser Ala Asp Ser Ser
              1045                1050                1055
Lys Thr Asp Lys Lys Leu Gln Ile Gln Glu Lys Ala Ala Gln Glu Val
              1060                1065                1070
Lys Leu Ala Ile Lys Pro Phe Tyr Gln Asn Lys Asp Ile Thr Lys Glu
              1075                1080                1085
Glu Tyr Lys Glu Ile Val Arg Lys Ala Val Asp Lys Val Cys His Ser
              1090                1095                1100
Lys Ser Gly Glu Val Asn Ser Thr Lys Val Ala Asn Leu Val Lys Ala
1105                1110                1115                112
Tyr Val Asp Lys Tyr Lys Tyr Ser Arg Lys Gly Ser Gln Lys Lys Thr
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Leu Glu Glu Pro Val Ser Thr Glu Lys Asn Ile Gly
              1140                1145
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<211> 597
<212> DNA
<213> Homo Sapiens

<400> 169
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gaagtgctac caaaacacgc aatgactgtc ctaaaagtgc gttctgggat acacctgtaa   180
acttggatca agttccctcc cctctcctca aaatatatcg acttgtgctg aaagaaatca   240
```

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```
cgaccgatgc tcacaattct gacctcgtaa ttatataggg ggtggttttg gtttctgcgt    300
ctttccctga ttcagtggca ggtaacatat ttcatgtaca aaatgaactg caacaccacg    360
gcaaacaagg gacaggccct caaagttgtc ggtagggagc caggaccccg ccagtggcgt    420
ggggagacac cgtactaaac aagcttgcaa acagcaggca ccttcctgcc actgaggagg    480
aagggctggc taagggaggc cggggcggag gaagccaagc tctgcaggcc ctgacaaagt    540
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        <213> Homo Sapiens

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<211>  1004
<212>  PRT
<213>  Homo Sapiens

<400>  171
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            20                  25                  30
Val Thr Phe Lys Met Asp Ser Thr Leu Thr Ala Ser Glu Ile Arg Gln
        35                  40                  45
Arg Phe Ile Asp Phe Phe Lys Arg Asn Glu His Thr Tyr Val His Ser
    50                  55                  60
Ser Ala Thr Ile Pro Leu Asp Asp Pro Thr Leu Leu Phe Ala Asn Ala
65                  70                  75                  80
Gly Met Asn Gln Phe Lys Pro Ile Phe Leu Asn Thr Ile Asp Pro Ser
                85                  90                  95
His Pro Met Ala Lys Leu Ser Arg Ala Ala Asn Thr Gln Lys Cys Ile
            100                 105                 110
Arg Ala Gly Gly Lys Gln Asn Asp Leu Asp Asp Val Gly Lys Asp Val
        115                 120                 125
Tyr His His Thr Phe Phe Glu Met Leu Gly Ser Trp Ser Phe Gly Asp
        130                 135                 140
Tyr Phe Lys Glu Leu Ala Cys Lys Met Ala Leu Glu Leu Leu Thr Gln
145                 150                 155                 160
Glu Phe Gly Ile Pro Ile Glu Arg Leu Tyr Val Thr Tyr Phe Gly Gly
                165                 170                 175
Asp Glu Ala Ala Gly Leu Glu Ala Asp Leu Glu Cys Lys Gln Ile Trp
            180                 185                 190
Gln Asn Leu Gly Leu Asp Asp Thr Lys Ile Leu Pro Gly Asn Met Lys
        195                 200                 205
Asp Asn Phe Trp Glu Met Gly Asp Thr Gly Pro Cys Gly Pro Cys Ser
    210                 215                 220
Glu Ile His Tyr Asp Arg Ile Gly Gly Arg Asp Ala Ala His Leu Val
225                 230                 235                 240
Asn Gln Asp Asp Pro Asn Val Leu Glu Ile Trp Asn Leu Val Phe Ile
                245                 250                 255
Gln Tyr Asn Arg Glu Ala Asp Gly Ile Leu Lys Pro Leu Pro Lys Lys
            260                 265                 270
```

```
Ser Ile Asp Thr Gly Met Gly Leu Glu Arg Leu Val Ser Val Leu Gln
        275             280             285
Asn Lys Met Ser Asn Tyr Asp Thr Asp Leu Phe Val Pro Tyr Phe Glu
        290             295             300
Ala Ile Gln Lys Gly Thr Gly Ala Arg Pro Tyr Thr Gly Lys Val Gly
305             310             315             320
Ala Glu Asp Ala Asp Gly Ile Asp Met Ala Tyr Arg Val Leu Ala Asp
            325             330             335
His Ala Arg Thr Ile Thr Val Ala Leu Ala Asp Gly Gly Arg Pro Asp
            340             345             350
Asn Thr Gly Arg Gly Tyr Val Leu Arg Arg Ile Leu Arg Arg Ala Val
            355             360             365
Arg Tyr Ala His Glu Lys Leu Asn Ala Ser Arg Gly Phe Phe Ala Thr
            370             375             380
Leu Val Asp Val Val Val Gln Ser Leu Gly Asp Ala Phe Pro Glu Leu
385             390             395             400
Lys Lys Asp Pro Asp Met Val Lys Asp Ile Ile Asn Glu Glu Glu Val
            405             410             415
Gln Phe Leu Lys Thr Leu Ser Arg Gly Arg Arg Ile Leu Asp Arg Lys
            420             425             430
Ile Gln Ser Leu Gly Asp Ser Lys Thr Ile Pro Gly Asp Thr Ala Trp
            435             440             445
Leu Leu Tyr Asp Thr Tyr Gly Phe Pro Val Asp Leu Thr Gly Leu Ile
            450             455             460
Ala Glu Glu Lys Gly Leu Val Val Asp Met Asp Gly Phe Glu Glu Glu
465             470             475             480
Arg Lys Leu Ala Gln Leu Lys Ser Gln Gly Lys Gly Ala Gly Gly Glu
            485             490             495
Asp Leu Ile Met Leu Asp Ile Tyr Ala Ile Glu Glu Leu Arg Ala Arg
            500             505             510
Gly Leu Glu Val Thr Asp Asp Ser Pro Lys Tyr Asn Tyr His Leu Asp
            515             520             525
Ser Ser Gly Ser Tyr Val Phe Glu Asn Thr Val Ala Thr Val Met Ala
            530             535             540
Leu Arg Arg Glu Lys Met Phe Val Glu Glu Val Ser Thr Gly Gln Glu
545             550             555             560
Cys Gly Val Val Leu Asp Lys Thr Cys Phe Tyr Ala Glu Gln Gly Gly
            565             570             575
Gln Ile Tyr Asp Glu Gly Tyr Leu Val Lys Val Asp Asp Ser Ser Glu
            580             585             590
Asp Lys Thr Glu Phe Thr Val Lys Asn Ala Gln Val Arg Gly Gly Tyr
            595             600             605
Val Leu His Ile Gly Thr Ile Tyr Gly Asp Leu Lys Val Gly Asp Gln
            610             615             620
Val Trp Leu Phe Ile Asp Glu Pro Arg Arg Arg Pro Ile Met Ser Asn
625             630             635             640
His Thr Ala Thr His Ile Leu Asn Phe Ala Leu Arg Ser Val Leu Gly
            645             650             655
Glu Ala Asp Gln Lys Gly Ser Leu Val Ala Pro Asp Arg Leu Arg Phe
            660             665             670
Asp Phe Thr Ala Lys Gly Ala Met Ser Thr Gln Gln Ile Lys Lys Ala
            675             680             685
Glu Glu Ile Ala Asn Glu Met Ile Glu Ala Ala Lys Ala Val Tyr Thr
            690             695             700
Gln Asp Cys Pro Leu Ala Ala Ala Lys Ala Ile Gln Gly Leu Arg Ala
```

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```
705                     710                     715                     720
Val Phe Asp Glu Thr Tyr Pro Asp Pro Val Arg Val Val Ser Ile Gly
                    725                     730                     735
Val Pro Val Ser Glu Leu Leu Asp Asp Pro Ser Gly Pro Ala Gly Ser
                    740                     745                     750
Leu Thr Ser Val Glu Phe Cys Gly Gly Thr His Leu Arg Asn Ser Ser
                    755                     760                     765
His Ala Gly Ala Phe Val Ile Val Thr Glu Glu Ala Ile Ala Lys Gly
        770                     775                     780
Ile Arg Arg Ile Val Ala Val Thr Gly Ala Glu Ala Gln Lys Ala Leu
785                     790                     795                     800
Arg Lys Ala Glu Ser Leu Lys Lys Cys Leu Ser Val Met Glu Ala Lys
                    805                     810                     815
Val Lys Ala Gln Thr Ala Pro Asn Lys Asp Val Gln Arg Glu Ile Ala
                    820                     825                     830
Asp Leu Gly Glu Ala Leu Ala Thr Ala Val Ile Pro Gln Trp Gln Lys
                    835                     840                     845
Asp Glu Leu Arg Glu Thr Leu Lys Ser Leu Lys Lys Val Met Asp Asp
        850                     855                     860
Leu Asp Arg Ala Ser Lys Ala Asp Val Gln Lys Arg Val Leu Glu Lys
865                     870                     875                     880
Thr Lys Gln Phe Ile Asp Ser Asn Pro Asn Gln Pro Leu Val Ile Leu
                    885                     890                     895
Glu Met Glu Ser Gly Ala Ser Ala Lys Ala Leu Asn Glu Ala Leu Lys
                    900                     905                     910
Leu Phe Lys Met His Ser Pro Gln Thr Ser Ala Met Leu Phe Thr Val
                    915                     920                     925
Asp Asn Glu Ala Gly Lys Ile Thr Cys Leu Cys Gln Val Pro Gln Asn
        930                     935                     940
Ala Ala Asn Arg Gly Leu Lys Ala Ser Glu Trp Val Gln Gln Val Ser
945                     950                     955                     960
Gly Leu Met Asp Gly Lys Gly Gly Gly Lys Asp Val Ser Ala Gln Ala
                    965                     970                     975
Thr Gly Lys Asn Val Gly Cys Leu Gln Glu Ala Leu Gln Leu Ala Thr
        980                     985                     990
Ser Phe Ala Gln Leu Arg Leu Gly Asp Val Lys Asn
        995                     1000
```

<210> 172
<211> 659
<212> DNA
<213> Homo Sapiens

<400> 172
```
gcctgagcaa cgtctccgag caggcgctgg gctagaggcg ggtctcaacc agctactcat   60
tggaggcggg cttgagagcg gcggccaggg aggtgcggag cagcctcggc ggcggcggcc  120
gaaccaaccg agtcggatcc tgaccctaaa acctagtatt ttccacttgt tcatcaatat  180
ggaaaactca gattccaatg acaaggaag tggtgatcag tctgcagcac agcgcagaag  240
tcagatggac cgattggatc gagaagaagc tttctatcaa tttgtaaata acctgagtga  300
agaagattat aggcttatga gagataacaa tttgctaggc accccaggtg aaagtactga  360
ggaagagttg ctgagacgac tacagcaaat taaagaaggc ccaccaccgc aaaactcaga  420
tgaaaataga ggaggagact cttcagatga tgtgtctaat ggtgactcta atatagactg  480
gcttaactct gtcagacaaa ctggaaatac aacaagaagt gggcaaagag aaaccaatc  540
ttggagagca gtgagtcgga ctaatccaaa cagtgggtga tttcagattc agtttagaga  600
taaatgttaa cccgtaataa tgggagccaa aattcagaga atgaaaatga gccatctgc  659
```

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```
<210> 173
<211> 192
<212> PRT
<213> Homo Sapiens

<400> 173
```

```
Pro Glu Gln Arg Leu Arg Ala Gly Ala Gly Leu Glu Ala Gly Leu Asn
1               5               10              15
Gln Leu Leu Ile Gly Gly Gly Leu Glu Ser Gly Gly Gln Gly Gly Ala
            20              25              30
Glu Gln Pro Arg Arg Arg Arg Pro Asn Gln Pro Ser Arg Ile Leu Thr
        35              40              45
Leu Lys Pro Ser Ile Phe His Leu Phe Ile Asn Met Glu Asn Ser Asp
        50              55              60
Ser Asn Asp Lys Gly Ser Gly Asp Gln Ser Ala Ala Gln Arg Arg Ser
65              70              75              80
Gln Met Asp Arg Leu Asp Arg Glu Glu Ala Phe Tyr Gln Phe Val Asn
            85              90              95
Asn Leu Ser Glu Glu Asp Tyr Arg Leu Met Arg Asp Asn Asn Leu Leu
            100             105             110
Gly Thr Pro Gly Glu Ser Thr Glu Glu Glu Leu Leu Arg Arg Leu Gln
        115             120             125
Gln Ile Lys Glu Gly Pro Pro Pro Gln Asn Ser Asp Glu Asn Arg Gly
        130             135             140
Gly Asp Ser Ser Asp Asp Val Ser Asn Gly Asp Ser Ile Ile Asp Trp
145             150             155             160
Leu Asn Ser Val Arg Gln Thr Gly Asn Thr Thr Arg Ser Gly Gln Arg
            165             170             175
Gly Asn Gln Ser Trp Arg Ala Val Ser Arg Thr Asn Pro Asn Ser Gly
            180             185             190
```

```
<210> 174
<211> 610
<212> DNA
<213> Homo Sapiens
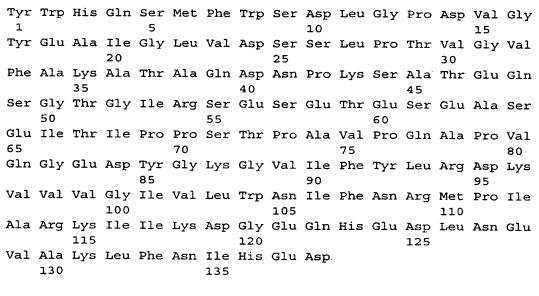
<400> 174
```

```
gtactggcat cagtcaatgt tctggagtga tttgggcccc gatgttggct atgaagctat    60
tggtcttgtg gacagtagtt tgcccacagt tggtgttttt gcaaaagcaa ctgcacaaga   120
caaccccaaa tctgccacag agcagtcagg aactggtatc cgatcagaga gtgagacaga   180
gtccgaggcc tcagaaatta ctattcctcc cagcaccccg gcagttccac aggctcccgt   240
ccagggggag gactacggca aaggtgtcat cttctacctc aggacaaag tggtcgtggg    300
gattgtgcta tggaacatct ttaaccgaat gccaatagca aggaagatca ttaaggacgg   360
tgagcagcat gaagatctca atgaagtagc caaactattc aacattcatg aagactgaag   420
ccccacagtg gaattggcaa acccactgca gccctgaga ggaggtcgaa tgggtaaagg    480
agcattttt tattcagcag actttctctg tgtatgagtg tgaatgatca agtcctttgt   540
gaatattttc aactatgtag gtaaattctt aatgttcnca tagtgaaata aattctgatt   600
cttctaaaaa                                                        610
```

```
<210> 175
<211> 138
<212> PRT
<213> Homo Sapiens

<400> 175
```

```
Tyr Trp His Gln Ser Met Phe Trp Ser Asp Leu Gly Pro Asp Val Gly
1               5                   10                  15
Tyr Glu Ala Ile Gly Leu Val Asp Ser Ser Leu Pro Thr Val Gly Val
                20              25                  30
Phe Ala Lys Ala Thr Ala Gln Asp Asn Pro Lys Ser Ala Thr Glu Gln
        35                  40                  45
Ser Gly Thr Gly Ile Arg Ser Glu Ser Glu Thr Glu Ser Glu Ala Ser
    50                  55                  60
Glu Ile Thr Ile Pro Pro Ser Thr Pro Ala Val Pro Gln Ala Pro Val
65                  70                  75                  80
Gln Gly Glu Asp Tyr Gly Lys Gly Val Ile Phe Tyr Leu Arg Asp Lys
                85                  90                  95
Val Val Val Gly Ile Val Leu Trp Asn Ile Phe Asn Arg Met Pro Ile
            100                 105                 110
Ala Arg Lys Ile Ile Lys Asp Gly Glu Gln His Glu Asp Leu Asn Glu
            115                 120                 125
Val Ala Lys Leu Phe Asn Ile His Glu Asp.
    130                 135
```

```
        <210> 176
        <211> 805
        <212> DNA
        <213> Homo Sapiens
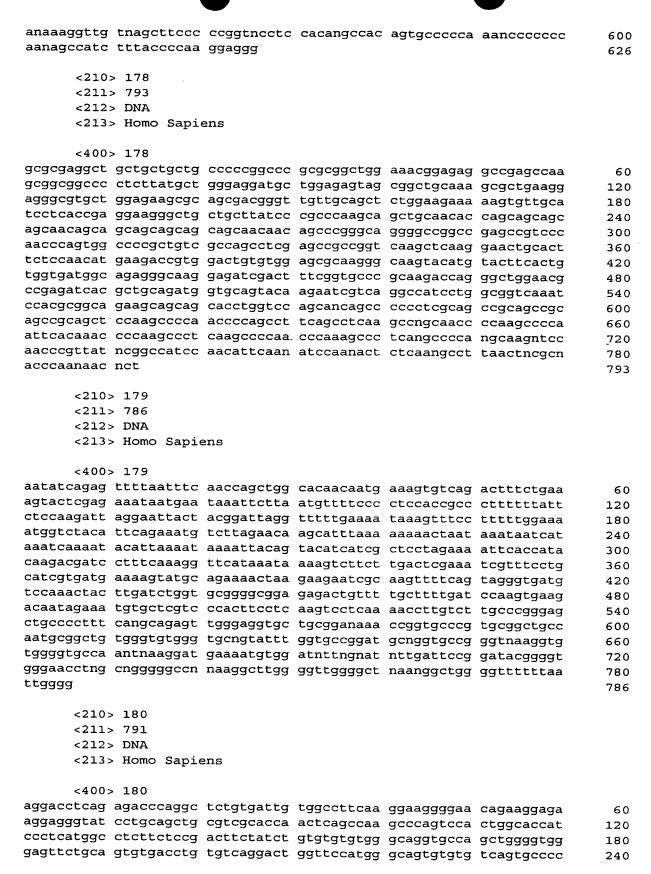
        <400> 176
gggacagcca agtctgtgac ttgcacgtac tcccctgccc tcaacaagat gttttgccaa   60
ctggccaaga cctgccctgt gcagctgtgg gttgattcca caccccgcc cggcaccgc    120
gtccgcgcca tggccatcta caagcagtca cagcacatga cggaggttgt gaggcgctgc   180
ccccaccatg agcgctgctc agatagcgat ggtctggccc ctcctcagca tcttatccga   240
gtggaaggaa atttgcgtgt ggagtatttg gatgacagaa acactttttcg acatagtgtg   300
gtggtgccct atgagccgcc tgaggttggc tctgactgta ccaccatcca ctacaactac   360
atgtgtaaca gttcctgcat gggcggcatg aaccggaggc ccatcctcac catcatcaca   420
ctggaagact ccagtggtaa tctactggga cggaacagct ttgaggtgcg tgtttgtgcc   480
tgtcctggga gagaccggcg cacagaggaa gagaatctcc gcaagaaagg ggagcctcac   540
cacgaagctg cccccaggga gcactaagcg agcactgccc aacaacacca agctcctctc   600
cccagccaaa gaagaaanca ctggatngag aatatttcac cccttcanat tcgttgggcg   660
tgagcgcttc cganaatgtt ccgaagagct gnaagaaggc cttgggaact caaaggatgc   720
ccaaggcttg ggaaaggagc caanggggggg gaancaangg gctcaactnc aagccaacct   780
gaaagttcca aaaaangggt ccagt                                        805
```

```
        <210> 177
        <211> 626
        <212> DNA
        <213> Homo Sapiens
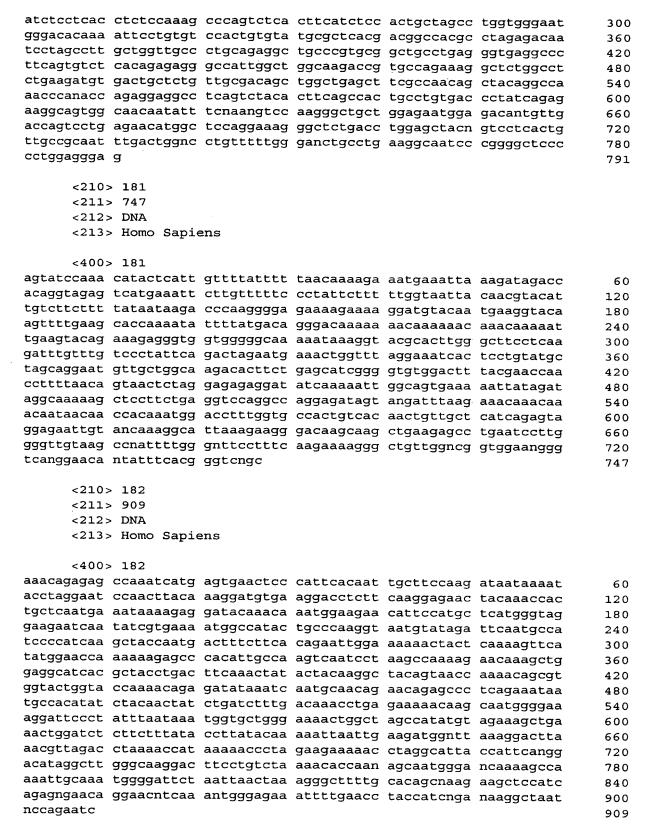
        <400> 177
ctaatttgtc tgtttattcc cacaaggtag ccaggggtgg gggcgccgag ccaagcccag   60
caggccatgg gaccttcctc cggcggggtg cacgctggat tttcgggtct gccccaccag   120
caggtttgca ggcaggccgt catgagtgcc ggtggaaggc tccgagggcg tgggcagggg   180
ctcgggcggg gccacacact tgtggagcta gaaatantgg ggcaggtcct tctctatcac   240
caggggctcc tccatgggtc cgtagcgctt caccacgcag ccgttcttgt cgatgaggaa   300
ctgtgganan acggtgtcca aactgtgggg ccacccctgc aaggggctga ggctgccctt   360
cctgtccgct gcccatctgg gccacggctg tggccagggg aaactggtcc cctaccccccc   420
acagccccct tacctttggt gaagttccac ttgatggcac tggaaaanaa gcacatggac   480
gtgagcgtcc ccaggcagcc ccccacagtc cccaaagctt gtcctgtctc caaggaggcc   540
```

```
anaaaggttg tnagcttccc ccggtncctc cacangccac agtgccccca aanccccccc    600
aanagccatc tttaccccaa ggaggg                                         626
```

```
        <210> 178
        <211> 793
        <212> DNA
        <213> Homo Sapiens

        <400> 178
gcgcgaggct gctgctgctg cccccggccc gcgcggctgg aaacggagag gccgagccaa     60
gcggcggccc ctcttatgct gggaggatgc tggagagtag cggctgcaaa gcgctgaagg    120
agggcgtgct ggagaagcgc agcgacgggt tgttgcagct ctggaagaaa aagtgttgca    180
tcctcaccga ggaagggctg ctgcttatcc cgcccaagca gctgcaacac cagcagcagc    240
agcaacagca gcagcagcag cagcaacaac agcccgggca ggggccggcc gagccgtccc    300
aacccagtgg ccccgctgtc gccagcctcg agccgccggt caagctcaag gaactgcact    360
tctccaacat gaagaccgtg gactgtgtgg agcgcaaggg caagtacatg tacttcactg    420
tggtgatggc agagggcaag gagatcgact ttcggtgccc gcaagaccag ggctggaacg    480
ccgagatcac gctgcagatg gtgcagtaca agaatcgtca ggccatcctg gcggtcaaat    540
ccacgcggca gaagcagcag cacctggtcc agcancagcc cccctcgcag ccgcagccgc    600
agccgcagct ccaagcccca accccagcct tcagcctcaa gccngcaacc ccaagcccca    660
attcacaaac cccaagccct caagcccaa cccaaagccc tcangcccca ngcaagntcc    720
aacccgttat ncggccatcc aacattcaan atccaanact ctcaangcct taactncgcn    780
acccaanaac nct                                                       793
```

```
        <210> 179
        <211> 786
        <212> DNA
        <213> Homo Sapiens

        <400> 179
aatatcagag ttttaatttc aaccagctgg cacaacaatg aaagtgtcag actttctgaa     60
agtactcgag aaataatgaa taaattctta atgttttccc ctccaccgcc cttttttatt    120
ctccaagatt aggaattact acggattagg tttttgaaaa taaagtttcc tttttggaaa    180
atggtctaca ttcagaaatg tcttagaaca agcatttaaa aaaaactaat aaataatcat    240
aaatcaaaat acattaaaat aaaattacag tacatcatcg ctcctagaaa attcaccata    300
caagacgatc ctttcaaagg ttcataaata aaagtcttct tgactcgaaa tcgtttcctg    360
catcgtgatg aaaagtatgc agaaaactaa gaagaatcgc aagtttcag tagggtgatg    420
tccaaactac ttgatctggt gcggggcgga gagactgttt tgcttttgat ccaagtgaag    480
acaatagaaa tgtgctcgtc ccacttcctc aagtcctcaa aaccttgtct tgcccgggag    540
ctgccccttt cangcagagt tgggaggtgc tgcgganaaa ccggtgcccg tgcggctgcc    600
aatgcggctg tgggtgtggg tgcngtattt ggtgccggat gcnggtgccg ggtnaaggtg    660
tggggtgcca antnaaggat gaaaatgtgg atnttngnat nttgattccg gatacggggt    720
gggaacctng cnggggggccn naaggcttgg ggttggggct naanggctgg ggtttttaa    780
ttgggg                                                              786
```

```
        <210> 180
        <211> 791
        <212> DNA
        <213> Homo Sapiens

        <400> 180
aggacctcag agacccaggc tctgtgattg tggccttcaa ggaaggggaa cagaaggaga     60
aggagggtat cctgcagctg cgtcgcacca actcagccaa gcccagtcca ctggcaccat    120
ccctcatggc ctcttctccg acttctatct gtgtgtgtgg gcaggtgcca gctggggtgg    180
gagttctgca gtgtgacctg tgtcaggact ggttccatgg gcagtgtgtg tcagtgcccc    240
```

```
atctcctcac ctctccaaag cccagtctca cttcatctcc actgctagcc tggtgggaat    300
gggacacaaa attcctgtgt ccactgtgta tgcgctcacg acggccacgc ctagagacaa    360
tcctagcctt gctggttgcc ctgcagaggc tgcccgtgcg gctgcctgag ggtgaggccc    420
ttcagtgtct cacagagagg gccattggct ggcaagaccg tgccagaaag gctctggcct    480
ctgaagatgt gactgctctg ttgcgacagc tggctgagct tcgccaacag ctacaggcca    540
aacccanacc agaggaggcc tcagtctaca cttcagccac tgcctgtgac cctatcagag    600
aaggcagtgg caacaatatt tcnaangtcc aagggctgct ggagaatgga gacantgttg    660
accagtcctg agaacatggc tccaggaaag ggctctgacc tggagctacn gtcctcactg    720
ttgccgcaat ttgactggnc ctgtttttgg ganctgcctg aaggcaatcc cggggctccc    780
cctggaggga g                                                         791
```

```
        <210> 181
        <211> 747
        <212> DNA
        <213> Homo Sapiens

        <400> 181
agtatccaaa catactcatt gttttatttt taacaaaaga aatgaaatta aagatagacc     60
acaggtagag tcatgaaatt cttgtttttc cctattcttt ttggtaatta caacgtacat    120
tgtcttcttt tataataaga cccaagggga gaaaagaaaa ggatgtacaa tgaaggtaca    180
agttttgaag caccaaaata ttttatgaca gggacaaaaa aacaaaaaac aaacaaaaat    240
tgaagtacag aaagagggtg gtgggggcaa aaataaaggt acgcacttgg gcttcctcaa    300
gatttgtttg tccctattca gactagaatg aaactggttt aggaaatcac tcctgtatgc    360
tagcaggaat gttgctggca agacacttct gagcatcggg gtgtggactt tacgaaccaa    420
cctttttaaca gtaactctag gagagaggat atcaaaaatt ggcagtgaaa aattatagat    480
aggcaaaaag ctccttctga ggtccaggcc aggagatagt angatttaag aaacaaacaa    540
acaataacaa ccacaaatgg acctttggtg ccactgtcac aactgttgct catcagagta    600
ggagaattgt ancaaaggca ttaaagaagg gacaagcaag ctgaagagcc tgaatccttg    660
gggttgtaag ccnatttttgg gnttcctttc aagaaaaggg ctgttggncg gtggaanggg    720
tcanggaaca ntatttcacg ggtcngc                                        747
```

```
        <210> 182
        <211> 909
        <212> DNA
        <213> Homo Sapiens

        <400> 182
aaacagagag ccaaatcatg agtgaactcc cattcacaat tgcttccaag ataataaaat     60
acctaggaat ccaacttaca aaggatgtga aggacctctt caaggagaac tacaaaccac    120
tgctcaatga aataaaagag gatacaaaca aatggaagaa cattccatgc tcatgggtag    180
gaagaatcaa tatcgtgaaa atggccatac tgcccaaggt aatgtataga ttcaatgcca    240
tccccatcaa gctaccaatg actttcttca cagaattgga aaaaactact caaaagttca    300
tatggaacca aaaaagagcc cacattgcca agtcaatcct aagccaaaag aacaaagctg    360
gaggcatcac gctacctgac ttcaaactat actacaaggc tacagtaacc aaaacagcgt    420
ggtactggta ccaaaacaga gatataaatc aatgcaacag aacagagccc tcagaaataa    480
tgccacatat ctacaactat ctgatctttg acaaacctga gaaaacaag caatggggaa    540
aggattccct atttaataaa tggtgctggg aaaactggct agccatatgt agaaagctga    600
aactggatct cttcttttata ccttatacaa aaattaattg aagatggntt aaaggactta    660
aacgttagac ctaaaaccat aaaaacccta gaagaaaaac ctaggcatta ccattcangg    720
acataggctt gggcaaggac ttcctgtcta aaacaccaan agcaatggga ncaaaagcca    780
aaattgcaaa tggggattct aattaactaa agggcttttg cacagcnaag aagctccatc    840
agagngaaca ggaacntcaa antgggagaa attttgaacc taccatcnga naaggctaat    900
nccagaatc                                                            909
```

```
        <210> 183
```

<211> 708
<212> DNA
<213> Homo Sapiens

<400> 183

```
attatcatta tactttaagt tttaggttac atgtgcacaa tgtgcaggtt agttacatat      60
gtatacatgt gccatgctgg tgtgctgcac ccattaactc gttatttagc attaggtata     120
tctcctaatg ctatccctcc cgcctccccc cacccacaa cagtccccag agtgtgatgt      180
tccccttcct gtgtccatgt gttctcactg ttcaattccc acctatgagt gagaatatgc     240
ggtgtttggt ttttttgtcc ttgccatagt ttactgagaa tgatgatttc caatttcatc     300
cctgtcccta caaaggacat gaactcatca tttttatgg ctgcatagta ttccatggtg      360
tatatgtgcc acattttctt aatccagtct atcattgttg gccatttggg ttggttccaa     420
gtctttgcta ttgtgaatac tgccgcaata aacatacgtg tgcatgtgtc tttatagcag     480
catgatttat antcctttgg gtatatactc agtaatggga tggctgggtc aaatggnatt     540
ccaantccan atcccttang aattgccaca cggactccac aanggttgaa ctantttaca     600
gtcccancaa cagngtnaaa gggtccnaan tcnccaaaat cctctccaag caccngttgt     660
tcccggactt tttaanggat tgncaattcc aaccgggngt caaaaggg                  708
```

<210> 184
<211> 855
<212> DNA
<213> Homo Sapiens

<400> 184

```
agactcacag tctgctggtg ggcagagaag acagaaacga catgagcaca gcaggaaaag      60
taatcaaatg caaagcagct gtgctatggg aggtaaagaa acccttttcc attgaggatg     120
tggaggttgc acctcctaag gcttatgaag ttcgcattaa gatggtggct gtaggaatct     180
gtcgcacaga tgaccacgtg gttagtggca acctggtgac ccccccttcct gtgattttag     240
gccatgaggc agccggcatc gtggagagtg ttggagaagg ggtgactaca gtcaaaccag     300
gtgataaagt catcccgctc tttactcctc agtgtggaaa atgcagagtt tgtaaaaacc     360
cggagagcaa ctactgcttg aaaaatgatc taggcaatcc tcgggggacc ctgcaggatg     420
gcaccaggag gttcacctgc aggggggaagc ccattcacca cttccttggc accagcacct     480
tctcccagta cacggtggtg gatgagaatg cagtggccaa aattgatgca gcctcgcccc     540
tggagaaagt ctgcctcatt ggctgtggat tctcgactgg gttatgggtc tgcagttaac     600
gttgccaagg tcaccccagg ctctacctgt gctgtgtgtg gcctgggaag ggtcggccta     660
tctgctgtta tgggctgtta aagcaactgg aggcanccag aatcaattgc ggtggacatc     720
aacaaggaca aattttgcaa agggcaaaag agttgggtgc cactgaatgc catcaacct      780
caagnctnca ngnaaaccca tccaggnaag tgctaaaang gaatttaccg attggagggt     840
ttggattttt ccgtt                                                      855
```

<210> 185
<211> 865
<212> DNA
<213> Homo Sapiens

<400> 185

```
cacagatgtt caatcaactg atgaagcaag tgtcaggact tactgttgac acagaggagc      60
ggctgaaagg agttattgac ctggtctttg agaaggctat tgatgaaccc agtttctctg     120
tggcttacgc aaacatgtgt cgatgtctag taacgctgaa agtacccatg gcagacaagc     180
ctggtaacac agtgaatttc cggaagctgc tactgaaccg ttgccagaag gagtttgaaa     240
aagataaagc agatgatgat gtctttgaga agaagcagaa agaacttgag gctgccagtg     300
ctccagagga gaggacaagg cttcatgatg aactggaaga agccaaggac aaagcccggc     360
ggagatccat tggcaacatc aagtttattg agaactctt taaactcaaa atgctgactg      420
aagccatcat gcatgactgt gtggtgaagc tgctaaagaa ccatgatgaa gaatccctgg     480
agtgcctgtg tcgcctgctc accaccattg gcaaagactt ggactttgaa aaagcaaagc     540
```

```
cacgtatgga ccagtacttt aatcaagatg gagaaaattg tnaaagaaag aaaaacctca      600
tctagggatt cggttcatgc ttcaaagatg ttatanacct aaggctgttg caattggggt      660
atctcgaaag agcagatnaa gggcctnaan ctatcgaaca gattcacaaa ganggctaaa      720
attgaaanaa caagaatagc caaagggaag gnccaacaac tcatggacca anggagaaat      780
agaataccaa ggtgttccaa aaanttggcc aaangnnggt tggaaanacn gttcaaaggg      840
ggccangaaa aantccgggt actgg                                           865
```

```
        <210> 186
        <211> 736
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 186
aaatatttgt tctatgtatt tacaagcctt aaagttgctc taaagatttc aagagtatta       60
agagtacttt tctcagggta gcactttngt tttttaaac aattcttgga gttctgtggt      120
ccacagcatt tccttctgtt tcaatgttat gtatgttttg attactattg tgattttta      180
aattttctga agcaagctga gaggcaggca gaaagatttg atgccaaaaa aaaaaaaatc      240
tttcttacct tgttcacccc aaactttctc aaatctggac taaatgctat accttaaaac      300
aaacatgagg tgcatcttga aggggaggga aatttatttc tctgctttc tattatacaa      360
gttgtttaca gaaactgcaa attaaaaaat tacactggca tttgcagtcc ttaaaataaa      420
ttaaaagttc tcaacttttt tttttttttg ctaaacattt ttttaagtat gagtccttgt      480
ttaaaaagaa aagattaaaa cagaaaatat tttctataaa taatacatgt attttggttt      540
tagtgctccc gccctaaggt ttgaagttta cttttancca ngtacctttt tcctccatga      600
tcacctttt ttctctttcc cctctcccaa ntccgtgcac acgtgggggt ttccggcaan      660
aattggcctt gctgnactgt gattgggcga anaacgttga aaaacctttt taaaaaaaa      720
tacttaaaat tgggtt                                                    736
```

```
        <210> 187
        <211> 946
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 187
tgaaggagct acaggccgag caggaggacc gggctttaag gagtttaag ctgagtgtca       60
ctgtagaccc caaataccat cccaagatta tcgggagaaa gggggcagta attacccaaa      120
tccggttgga gcatgacgtg aacatccagt ttcctgataa ggacgatggg aaccagcccc      180
aggaccaaat taccatcaca gggtacgaaa agaacacaga agctgccagg gatgctatac      240
tgagaattgt gggtgaactt gagcagatgg tttctgagga cgtcccgctg gaccaccgcg      300
ttcacgcccg catcattggt gcccgcggca aagccattcg caaaatcatg gacgaattca      360
aggtggacat tcgcttccca cagagcggag ccccagaccc caactgcgtc actgtgacgg      420
ggctcccaga gaatgtggag gaagccatcg accacatcct caatctggag gaggaatacg      480
tgagtctctg tgggccttgg agccctgagg cgccctggca cgtccaccgg cctgaggccc      540
agccaggagc ttcaggggac aaggtggcac ttgtgtttcc agaggcaagc naagtgcagg      600
ggtgagcaag cnggcgggat gctggggggtg ctggggcaaa ctgaccctgt cttcctgtct      660
tccgcctgca gctagcctga cgttgtggac agtnaangcg cctgcangtt atacatgaaa      720
cccccagcac acgaanaagc caanggnacc tttcaaaagg ctttnttggt gccgggacca      780
acctgggacc gccagcaacc aatnaaaaaa ggcnctgacn ttaaccaagc tcngagggaa      840
tttcccancc tttgggggcc caaggtggct cccaaagaac cctcccntt nggggccccc      900
aaacnaatna ttgttcaaaa anggaacaaa aaccctctc aagccc                    946
```

```
        <210> 188
        <211> 802
        <212> DNA
        <213> Homo Sapiens
```

```
<400> 188
aaagtcaagg ncgtttattt ccngaggnca tgacacanga agtggaatcc naaccacggn     60
tgcggnnnaa aagtgatgaa ggccaaagtg ctgactgaca tgccgggtgg accaaganct    120
ggagtcngtt atcntaacac gaatgcccan gaccttggtt taatgttaaa cantggagca    180
ngtcctganc gggcacggcc angcctggag gancggccgc acacacancc angcgcnagg    240
ctccctgcgg gacctcngga aggggggaana gcgtcaacaa tttacggngg gtccaaccgc    300
tgggtcaaat tgagacaaac cantgtgtgg ttgggttcgg gtcancangc tggananggt    360
tcngttcntt ttgatcanta ncntttgggg ccccaaggga nggtcntggg anccacctga    420
ncccaaagc tgggaaattc ctcaaagctg cncatgtcaa gagccttcnc antgctgctg    480
gcggtccaag gtgcgtcccg caccacaaag cctctggaag gngccntggc ctcttcctgt    540
gccggggggtt tcatgtntac ctgcancgcc tcactgtcca ccaangtcag ctaactgcag    600
gcnnaagaca ggaatnacag ggtcagtctg cccaacaacc ccancatccc ggcccgccct    660
ggctcaaacc ctgcaacctt gcctgccttc cgggaancac aatttcccac ccttgtnccc    720
ctgaaanccn cctggnctgg ggccntcaaa ggccgttgga ncttccanag gncnccccca    780
ggggntccca angggcccac aa                                             802
```

```
<210> 189
<211> 807
<212> DNA
<213> Homo Sapiens
```

```
<400> 189
aaaatggcgg cggcagcggt gtcgctttgt ttccgcggct cctgcggcgg tggcagtggt     60
agcggccttt gagctgtggg gaggttccag cagcagctac agtgacgact aagactccag    120
tgcatttcta tcgtaaccgg gcgcggggga gcgcagatcg gcgcccagca atcacagaag    180
ccgacaaggc gttcaagcga aaacatgacc gctgagccca tgagtgaaag caagttgaat    240
acattggtgc agaagcttca tgacttcctt gcacactcat cagaagaatc tgaagaaaca    300
agttctcctc cacgacttgc aatgaatcaa aacacagata aaatcagtgg ttctggaagt    360
aactctgata tgatggaaaa cagcaaggaa gagggaacta gctcttcaga aaaatccaag    420
tcttcaggat cgtcacgatc aaagaggaaa ccttcaattg taacaaagta tgtagaatca    480
gatgatgaaa aaccctttgga tgatgaaact gtaaatgaag atgcgtctaa tgaaaattca    540
gaaaatgata ttactatgca nagcttgcca aaaggtacag tgattgttca gccagagcca    600
gtgctgaatg aagacaaaga tgattttaaa ggggcctgaa tttagaagca gaagttaaaa    660
tgaaaactga naatctcaaa aaacgccgga gaanatgggc ttcatgggga ttgtgangcc    720
tgcactggcn tggtggacaa caaggtcaat caatttcaaa aaggttccat ttatagacaa    780
cccttcaatg caaggtcnta tttgtta                                        807
```

```
<210> 190
<211> 608
<212> DNA
<213> Homo Sapiens
```

```
<400> 190
ccagttcttt ttttcccttc ttctggctca tcatctgaag atccatcctc atcagaggaa     60
agattggctt taatttcttc taaaagcatc ttcttggcaa ttctattctc aggatcattg    120
tcgtcatcat catcatccac tgtgacaggc actgatttag ataaggcttc atctcctgaa    180
gattggcaaa atccagtatg tgaagacagc actaaatttt cagtcacagg cttaattttc    240
tgttcatcgc tgcttccctc acctatagaa ttctgatcat catcttctat atcagaagaa    300
gatgaggatg taatgtcagc ttgcttcctt ttagtgcttg ttcttaggga gtttctcttt    360
ttctccttga caatgactgc cttctttta gatgaagttc tttgcttctt cttttactta    420
tcttcangaa ctttcctcag catcagatga tgatgangcc actttgtatt tccttagtat    480
ttctctttga acttaaattt cttctttccc tcaattcgag tcttttcagt caccttatca    540
gaagagttac aancatcttc tttcatggga agtatcaaga tgatgaacaa tcttgtcnct    600
tccttgaa                                                             608
```

```
<210> 191
<211> 786
<212> DNA
<213> Homo Sapiens

<400> 191
gcactttgct gatggtggac agtgaggagg agtacttccc tgaagagatc gccaagctcc     60
ggagggacgt ggacaacggc ctctcgctcg tcatcttcag tgactggtac aacacttctg    120
ttatgagaaa agtgaagttt tatgatgaaa acacaaggca gtggtggatg ccggataccg    180
gaggagctaa catcccagct ctgaatgagc tgctgtctgt gtggaacatg gggttcagcg    240
atggcctgta tgaaggggag ttcaccctgg ccaaccatga catgtattat gcgtcagggt    300
gcagcatcgc gaagtttcca gaagatggcg tcgtgataac acagactttc aaggaccaag    360
gattggaggt tttaaagcag gaaacagcag ttgttgaaaa cgtccccatt ttgggacttt    420
atcagattcc agctgagggt ggaggccgga ttgtactgta tggggactcc aattgcttgg    480
atgacagtca ccgacagaag gactgctttt ggcttctgga tgccctcctc cagtacacat    540
cgtatggggt gacaccgcct agcctcagtc actctgggaa ccgccagcgc cctcccantt    600
ggagcaagct cagtcactcc agagaggatg gaaggaaacc atctcatcgg tactccaagg    660
ttctggangg ccatttggga aaaccaaaac ctcgggctcn acaaccctgt ccangcctgt    720
nctgggccaa gccaanagcc tttaaaccan aacggngccc aattaacccct ttggaaaaca    780
tcagaa                                                                786

<210> 192
<211> 819
<212> DNA
<213> Homo Sapiens

<400> 192
gacgggtaat acatatttat tgaaaatttt cttcaccgac aatggtgaaa tcaagacctc     60
aaattacaaa acatggtggc aggtgatact tacaaaaata aagcgaaggt ctatgtttta    120
cagatttgtg catgtttcct tcaaatctca gtctgtactg tcattaaaaa gatcatggaa    180
tctatgttgt tcctcatgat ggaatagtaa aaaaactgca ttccactgac aaaaaaaata    240
gctttgcttc caaatagcac aagtctttaa agtgactttt cccaacaata aatatagaaa    300
atagccttta acaagcgtct tttagcttgg tcagggttgt atcatttgtt tggaaagtac    360
atccttcccc tgcagtcaga agaccccaga cagcctttcc agttctcccg agtctttggt    420
gcgcacagct gccggcggga agtctcactg gcggcagagc cactaagtcc ctcctgacgg    480
gatccacagg aatcttctcg atgtaccagg agcctctgcc catcacagga gggcaggccc    540
atgtagaaca agactctaac aaacctgcag ctggaaactg gattcctttt aaaccaaccc    600
gccaacacag ctcggntcac ccaccancgc cgtccgtnaa aggggctctc tgggcctcac    660
gggtcagcca ggttgccggt cacaccgaaa ggggtccttg ggcgggtgaa cctgctgcat    720
gaanctggcg gggngcttca accctgggct tcctccggct ttcggcctgg ncctgggcct    780
tgttgaantt gntccacaaa agaaaggcca ggagcaaca                           819

<210> 193
<211> 744
<212> DNA
<213> Homo Sapiens

<400> 193
cagtcccagc acaacctgca ggggcatctg tccagcctgt tggccaggct ccggcagcag     60
tgtctgctgt acctactggc agtcagattg caaatattgg tcagcaagca aacataccta    120
ctgcagtgca gcagccctct acccaggttc caccttcagt tattcagcag ggtgctcctc    180
catcttcgca agtggttcca cctgctcaaa ctgggattat tcatcaggga gttcaaacta    240
gtgctccaag ccttcctcaa caattggtta ttgcatccca aagttccttg ttaactgtgc    300
ctccccagcc acaaggagta gaatcagtag ctcaaggaat tgtttcacag cagttgcctg    360
cagttagttc tttgccctct gctagtagta tttctgttac aagtcaggtt agttcaactg    420
```

```
gtccttctgg aatgccttct gccccaacaa acttggttcc accacaaaat atagcacaaa      480
cccctgctac ccaaaatggt aatttggttc aaagtgttaa gtcaacctcc cttgatagca      540
actaatacaa atttgccttt ggcacaacag ataccactaa gttctaccca agttctccgc      600
acaatcatta gctcaggcaa ttggaagcca aattgaagat gccaggcgtt gcagcggagc      660
cctccttaag ttggcttacc tcaagactaa tcagttggtg acaattgggg ggaatgttca      720
gcaagtttca agattgggaa gtta                                            744
```

```
    <210> 194
    <211> 567
    <212> DNA
    <213> Homo Sapiens
```

```
    <400> 194
atcaacattt atatgcttta ttgaaagttg acaagtgcaa cagttaaata cagtgacacc       60
ttacaattgt gtagagaaca tgcacagaaa catatgcata taactactat acaggtgata      120
tgcagaaacc cctactggga aatccatttc attagttaga actgagcatt tttcaaagta      180
ttcaaccagc tcaattgaaa gacttcagtg aacaaggatt tacttcagcg tattcagcag      240
ctagatttca ggattacaca aagtgagtaa ctgtgccaaa ttcttaaaat ttctttaggt      300
gtggtttttg tcatgtagca gtttttatgt agatcnatat ntaaaagtcc acacctcctc      360
agacangcca atgaaacnac taaatttcaa tctgtacaan ctaaatagta attacagtcc      420
tctangtgnn caangatact tacaccacat anacaaatnt acnntacgca naacaacctt      480
catggggaag gatagcccta ggtccccagc tancctgtca ccatttttgt cactctcata      540
gttttggtgt ccaatccatt ggttttg                                         567
```

```
    <210> 195
    <211> 771
    <212> DNA
    <213> Homo Sapiens
```

```
    <400> 195
gagagaacag agcaacaaga gcacaaagaa aaaaagaaga aatgaacaga ataagaacat       60
tagttgacaa tgcatacagc tgtgatccaa ggataaaaaa gttcaaggaa gaagaaaaag      120
ccaagaaaga ancanaaaag aaagcaaaag cagaagctaa acggaaggag caagaagcta      180
aagaaaaaca aagacaagct gaattagaag ctgctcggtt agctaaggag aaagaagagg      240
aggaagtcag acagcaagca ttgctggcaa agaaggaaaa agatatccag aaaaaagcca      300
ttaagaagga aaggcaaaaa tttcgaaact catgcaagac ctggaatcat ttttctgata      360
atgaggcaga gcgggttaaa atgatggaag aagtggaaaa actttgtgat cggcttgaac      420
tggcaagctt acagtgcttg aatgaaacac tcacatcatg cacaaaagaa gtnggaaagg      480
ctgctttgga aaaacagata gaagaaataa atgagcaaat cagaaaagag aaagaggaag      540
ctgaggctcg tatgcgacaa gcatctaaga acacagagaa atcaactggt ggaaggtgga      600
aaatggaagt aaaaattggg cacaaagatg ntctacaatt actaatttna aagctgtgaa      660
tcctgttncc tgctggaaca aantcaagat gggaagttat tgccaantac atgaacatac      720
attcctcccn cngggngtcc aaaaagaaac tgccaaaagn atgtttattg g              771
```

```
    <210> 196
    <211> 561
    <212> DNA
    <213> Homo Sapiens
```

```
    <400> 196
acagtatttt cagttttatt ataaaaatgc acacacaaca aagattgtca tttcttggct       60
ctacttgcat tcagcacttg ttcttgagca gctttctttg cttttaccat ctcgacaagt      120
tccttgtatc gtttcatgca gtccttcttt gtcctgccag gcaccgcttc tgctattttt      180
tcccatcttt caggtgtatt tactgggtat gttttcaaag cttgttccaa aagcttctgt      240
tcttctgttg tccaaggggt gaagtctgta tatggacctt caaatcgttc tgaaggcgtt      300
```

```
gcgttgtctg cttgaggtac cactccatgt tctttttttga acttatcaaa tgccttttta    360
tttangtcag cttttttgatg agggtcaagt tttttggagac tctttgctttt gccaataaca    420
tctttggnan gttcttttga ctccaagagg aagaangtnt ngttcatgtn antangcaan    480
aacgtcccat ctggaantttt tgttcnacca gggaacanac tcacaagctt taactaagta    540
antgtngnat naccgncngn c                                               561
```

        <210> 197
        <211> 691
        <212> DNA
        <213> Homo Sapiens

        <400> 197
```
cgccacaacc acaaccagca ccacagcctc caccacccca gcagcagccg caacagcagc     60
cgcagcctca gccccagcag cctccacccc cacccccctcc ccagcagcag ccccgctgt    120
cacagtgtan tatgaataac agtttcaccc cagctcctat gatcatggag ataccagaat    180
ctggaagcac tgggaacata agtatctatg agaggattcc aggggatttt ggtgccggca    240
gctactctca accatcagcc accttcagcc tagccaagct gcagcagctg accaacacca    300
ttatggaccc tcatgccatg ccttatagcc attctcctgc tgtgacttcc tatgcaacca    360
gtgtttctct gtccaataca ggactggctc agctggctcc atctcatccc ttagctggga    420
ctcctcaagc acangccacc atgacgccac ccccaaactt ggcatccact accatgaacc    480
tcacatctcc tctgcttcag tgcaacatgt ctgccaccaa cattggcatt cctcacacgc    540
aggagattgc aagggcaaat gccagtgaag gggcacattt ccatccgctc caagtttggc    600
ggcactgccc tctgcngctg ctcaccanna ngcagctggt atgggccgtn tccccaatcg    660
ggcagtttgc caatgcaaag gcttgggccc t                                   691
```

        <210> 198
        <211> 646
        <212> DNA
        <213> Homo Sapiens

        <400> 198
```
acctatccct ggagcaagta ataggaagag aatgggcaaa ctggttgcac gagagaaaag     60
agaatggagt tgggagcaac acatgaactt gcgttataac attctgctgt ccagatctgc    120
cctactgtgc tggtggtcgg tctgtccctc ttctcattag ccactcacag gagaggtgct    180
tgtgcactct gattcacagg ggatgaactc aggatctcaa aagacataca aaaactanag    240
gtatgtatca cttaagtagc tacgaaactc acacgtgat ctcccttctg acacacatct    300
gcgccatctc ttccaacata aaatanactg tttcaatggt ttgtcagtta ttttttcaaat   360
cactaanatg tacagtcatc caccaacaat ttaagaaaga acctaagagg caaatcactg    420
gggactgcta tttgagtttt atcagtcaaa ggctcaagca tcaanaccct cagttancat    480
ttcaaagtac atactangaa acancgaggc tgggtggcgt tgtgtgcgtt anggctgatt    540
caccaggtgg taaancaaca aagnggttaa gnctccnctt tttggattgt taattgncca    600
tcctcnattc ctccaaaagg gctgggatttt ggatttggca aagtca                  646
```

        <210> 199
        <211> 811
        <212> DNA
        <213> Homo Sapiens

        <400> 199
```
cggcggcgct ccaggtgctg acagcgcgag agagcgcggc cctcaggagc aaggcgaatg     60
tatgacaaca tgtccacaat ggtgtacata aaggaagaca agttggagaa gcttacacag    120
gatgaaatta tttctaagac aaagcaagta attcaggggc tggaagcttt gaagaatgag    180
cacaattcca ttttacaaag tttgctggag acactgaagt gtttgaagaa agatgatgaa    240
agtaatttgg tggaggagaa atcaaacatg atccggaagt cactggagat gttggagctc    300
ggcctgagtg aggcacaggt tatgatggct ttgtcaaatc acctgaatgc tgtggagtcc    360
```

```
gagaagcaga aactgcgtgc gcaggttcgt cgtctgtgcc aggagaatca gtggctacgg        420
gatgaactgg ccaacacgca gcagaaactg cagaagagtg agcagtctgt ggctcaactg        480
gaggaggaga agaagcatct ggagtttatg aatcagctaa aaaaatatga tgacgacatt        540
tccccatccg aggacaaaga cactgattct accaaagagc ctctggatga ccttttcccc        600
aatgatgaag acgacccagg gcaaggaatc cagcagcagc acagcagtgc agccgcggct        660
gcccagcaag gcngctacna agattcccgc gcggctgcgg acgctccaca acctgggtga        720
ttcagttcgc ctcnncangg ggccgctacc aaggtaacct gttgccccct cctggcaaag        780
caaggnccct gggaagggan cctgggagga a                                       811
```

        <210> 200
        <211> 763
        <212> DNA
        <213> Homo Sapiens

        <400> 200
```
acacagtaaa tggatttat taatacagtt tatattacta agtacatatc tggcaaagct         60
acatgtatac agaaatcagg aaccccccca aaaggacag cagcaccgaa aggaatggcc        120
agttcacaga gaggtgcagc tctgacaaga tcctagaggc tgctagacac agcgggcagc        180
actggagaga gaagggaagc tgcgggaggc gccacccgtc atgcaggaga cagtgtgaga        240
gtcacgggcg gctaggccat gggacgctga gcaagtcagt taaccagccc gagcttcatt        300
ttcctcattt cctcccctcc gtcagggcca ctctcgtact tgaccacgtc cacgttgagg        360
ctctcacggc tcctgcgctt ctccatgttc tcagggtcat tgagcacttc tgccacccct        420
tgtttgtgaa cattgtcaag accctgttta cgagacctca tagcagcttc ttctaacgtt        480
tctgcagctt caaatttgcc ttgacgtctg taaagtgccc caaggttttt tagagtggtt        540
gtaacagttg gnctatcaac tttgcangct ttgtaccaac cgccatactc tccaaaaaga        600
tgtcccatcc ttttgctttc cttgcattc ttctcttcc tcaacaatgc atccaaatgg         660
gtttaatttc aacatctaca gaaccaaact ccctttcatg tgcacaagtg agaatcnctt        720
tgtacantgt ttccgccttc cttgaacntt ccctgtttca aaa                         763
```

        <210> 201
        <211> 717
        <212> DNA
        <213> Homo Sapiens

        <400> 201
```
ggcgaatgta tgacaacatg tccacaatgg tgtacataaa ggaagacaag ttggagaagc         60
ttacacagga tgaaattatt tctaagacaa agcaagtaat tcaggggctg gaagctttga        120
agaatganca caattccatt ttacaaagtt tgctggagac actgaagtgt ttgaagaaag        180
atgatgaaag taatttggtg gaggagaaat caaacatgat ccggaagtca ctggagatgt        240
tggagctcgg cctgagtgag gcacaggtta tgatggcttt gtcaaatcac ctgaatgctg        300
tggagtccga gaagcagaaa ctgcgtgcgc aggttcgtcg tctgtgccag gagaatcagt        360
ggctacggga tgaactggcc aacacgcagc aagaaactgc agaagagtga gcagtctgtg        420
gctcaactgg aggaggagaa gaagcatctg gagtttatga atcagctaaa aaaatatgat        480
gacgacattt ccccatccga gggacaaaga cactgattct accaaagagc ctccggatga        540
ccttttcccc aatgatgaag acgacccag ggcaagggaa tccancagca gcacagcaan        600
ttgcagccgc ggctgcccaa gcaaggcggc tacgagattc cgccgcggc tgccggacgc         660
tccacaacct ggtnatccaa tacgccctcn caagggcgc taccaaggt aactgtt           717
```

        <210> 202
        <211> 647
        <212> DNA
        <213> Homo Sapiens

        <400> 202
```
cagtcggagt gagtttatta gaagttagaa agacacaaat acacaaatca ctgagcactt         60
```

```
caagattagt agagaaaagc agaatgccca aatttcacac acagactaca cagcaaatgc    120
tactggggca tatcctaggg agaccggag tccgagcggg gcccccaggg ctctaagtac     180
cacggagcac gtgcggcaca tgccttgctg taaggcttag ttacgtcaac aggtcaccgt    240
catgccattg caacaacacc ttgtgtgaca cttaactacc tgttaccaaa gtgaacagct    300
aatcgctctt aatttttaaa ctcgtgtatt acacagtaaa tggattttan taatacagtt    360
tatattacta agtacatatc tggcaaagct acatgtatac agaaatcagg aacccccca     420
aaaaggacag cagcaccgaa aggaatggcc agttcacaga nangtgcagc tctgacaaga    480
tcctagangc tgctagacac agcgggcagc actgggana gagaagggaa gctgcgggag      540
gcgccaaccc gtcatgccag gggacagtgt ganagtcacg ggncgggcta ngccaatggg    600
aacncctgan gcaangcagt ttaaccangc cccgnggctt caatttt                  647
```

```
        <210> 203
        <211> 786
        <212> DNA
        <213> Homo Sapiens

        <400> 203
cagccatgga cgccatcaag aagaagatgc agatgctgaa gctggacaag gagaacgcca    60
tcgaccgcgc cgagcaggcc gaagccgaca agaagcaagc tgaggaccgc tgcaagcagc    120
tggaggagga gcagcaggcc ctccagaaga agctgaaggg gacagaggat gaggtggaaa     180
agtattctga atccgtgaag gaggcccagg agaaactgga gcaggccgag aagaaggcca    240
ctgatgctga ggcagatgtg gcctccctga accgccgcat tcagctggtt gaggaggagc    300
tggaccgggc ccaggagcgc ctggctacag ccctgcagaa gctggaggag gccgagaagg    360
cggctgatga gagcgagaga ggaatgaagg tcatcgaaaa ccgggccatg aaggatgagg    420
agaagatgga actgcaggag atgcagctga aggaggccaa gcacatcgct gaggattcag     480
accgcaaata tgaagaggtg gccaggaagc tggtgatcct ggaaggagag ctggagcgct    540
cggaggagan ggctgaggtg gccgagagcc gagccagaca gctggaggag gaacttcgaa    600
ccatggacca ngccctcaag tccctgatgg cctcanagga ggagtattcc accaaagaag    660
attaatatga agaggagatn aaactgttgg anggagaagc tgaanggagg ctganacccc    720
aagcaaaagt ttgccnaaaa ggtctgtggg caaaaatttg ggngaaaaac catcnaatga    780
acctta                                                               786
```

```
        <210> 204
        <211> 738
        <212> DNA
        <213> Homo Sapiens

        <400> 204
ggctagtaac atcagttta ttgggttggg gtggcaacca tagcctggct gggggtgggg      60
ctggccctca caggttgttg agttccagca gggtctggtc caaggtctgg tgaatctcga    120
cgttctcctc cttggcactg gccaaggtct cttctaggtc atcgatggtt ttctccaact    180
ttgccacaga cctctcggca aactctgctc gggtctcagc ctccttcagc ttctcctcca    240
acagtttgat ctcctcttca tatttatctt ctttggtgga atactcctcc tctgaggcca    300
tcagggactt gagggcctgg tccatggttc gaagttcctc ctccagctgt ctggctcggc    360
tctcggccac ctcagccctc tcctccgagc gctccagctc tccttccagg atcaccagct    420
tcctggccac ctcttcatat ttgcggtctg aatcctcagc gatgtgcttg gcctccttca    480
gctgcatctc ctgcagttcc atcttctcct catccttcat ggcccggttt tcnatgacct    540
tcattcctct ctcgctctca tcagcccgcc ttctcggctc ctccagcttc tgcanggctg    600
tanccaangc gctcctgggc ccggtcaanc tcctcctcaa caagctgaat gcggcggttc    660
aaggaaggca anatctgcct caacaacaat tggccttctt cncggccngc tccaattttc    720
nccnggggcc tccttcaa                                                   738
```

```
        <210> 205
        <211> 818
        <212> DNA
```

<213> Homo Sapiens

<400> 205
```
gctagtaaca tcagttttat tgggttgggg tggcaaccat agcctggctg ggggtggggc    60
tggccctcac aggttgttga gttccagcag ggtctggtcc aaggtctggt gaatctcgac   120
gttctcctcc ttggcactgg ccaaggtctc ttctaggtca tcgatggttt tctccaactt   180
tgccacagac ctctcggcaa actctgctcg ggtctcagcc tccttcagct tctcctccaa   240
cagtttgatc tcctcttcat atttatcttc tttggtggaa tactcctcct ctgaggccat   300
cagggacttg agggcctggt ccatggttcg aagttcctcc tccagctgtc tggctcggct   360
ctcggccacc tcagccctct cctccgagcg ctccagctct ccttccagga tcaccanctt   420
cctggccacc tcttcatatt tgcggtctga atcctcagcg atgtgcttgg cctccttcag   480
ctgcatctcc tgcagttcca tcttctcctc atccttcaag gcccggtttt cgatgancct   540
tcattcctct ctcggctctc atcagccgcc ttctcgggct cntccaagct tctgcaaggc   600
tgtanncann ggctcctggg gcccgggtnc aagntcctcc tcaaacangc tnaaatncca   660
gagggtttca nggaagggcc aaaatctggc ctnnagnatc aattggcttt cttncncggg   720
nctngcncca attttctccn ggggcctncc tttcanggg tnaagaanaa atttcaaatt    780
caacctcggt tccccttnaa cntcntnctg gaagggct                           818
```

<210> 206
<211> 927
<212> DNA
<213> Homo Sapiens

<400> 206
```
cagccatgga cgccatcaag aagaagatgc agatgctgaa gctggacaag gagaacgcca    60
tcgaccgcgc cgagcaggcc gaagccgaca agaagcaagc tgaggaccgc tgcaagcagc   120
tggaggagga gcagcaggcc ctccagaaga agctgaaggg gacagaggat gaggtggaaa   180
agtattctga atccgtgaag gaggcccagg agaaactgga gcaggccgag aagaaggcca   240
ctgatgctga ggcagatgtg gcctccctga accgccgcat tcagctggtt gaggaggagc   300
tggaccgggc ccaggagcgc ctggctacag ccctgcagaa gctggaggag gccgagaagg   360
cggctgatga gagcgagaga ggaatgaagg tcatcgaaaa ccgggccatg aaggatgagg   420
agaagatgga actgcaggag atgcagctga aggaggccaa gcacatcgct gaggattcag   480
accgcaaata tgaagaggtg gccaggaagc tggtgatcct ggaaggagag ctggagcgct   540
cggaggagag ggctgaggtg gccgagagcc gagccagaca gctggaggag gaacttcgaa   600
ccatggacca ggccctcaag tccctgatgg cctcagagga ggagtattcc accaaagaag   660
ataaatatga gaggagatc aaactgttgg aggagaagct gaaggaggct gagacccgag   720
cagagtttgc cgagaggtct gtggcaaagt tggagaaaac catcgatgac ctagaagaga   780
ccttggccag tgccaaggag gagaacgtcg agattcacca gaccttggac cagaccctgc   840
tggaactcaa caacctgtga gggccagccc cacccccagc caggctatgg ttgccacccc   900
aacccaataa aactgatgtt actagcc                                      927
```

<210> 207
<211> 910
<212> DNA
<213> Homo Sapiens

<400> 207
```
ggaagatggc ggcggccgtt ccacagcggg cgtggaccgt ggagcagctg cgcagtgagc    60
agctgcccaa gaaggacatt atcaagtttc tgcaggaaca cggttcagat tcgtttcttg   120
cagaacataa attattagga aacattaaaa atgtggccaa gacagctaac aaggaccact   180
tggttacagc ctataaccat cttttttgaaa ctaagcgttt taagggtact gaaagtataa   240
gtaaagtgtc tgagcaagta aaaaatgtga agcttaatga agataaaccc aaagaaacca   300
agtctgaaga gaccctggat gagggtccac caaaatatac taaatctgtt ctgaaaaagg   360
gagataaaac caactttccc aaaaagggag atgttgttca ctgctggtat acaggaacac   420
tacaagatgg gactgttttt gatactaata ttcaaacaag tgcaaagaag aagaaaaatg   480
```

```
ccaagccttt aagttttaag gtcggagtag gcaaagttat cagaggatgg gatgaagctc    540
tcttgactat gagtaaagga gaaaangctc gactggagat tgaaccagaa tgggcttacg    600
gaaagaaagg acagcctgat gccaaaattc caccaaatgc aaaactcact tttgaagtgg    660
nantatggga tattgattga aatagcagtg cntcagctcn aggntattag caacaatgat    720
taaaacntgg ncttgaaaga aaatttcaca actagttnag aaacttgtta ccaaatggta    780
aaggaaaaag tcaactggga aaaattcaag ggngttaana aaaanttggt ttacctgggg    840
cccaagcctt ttgngaaaaa aaaancccct tatgaaancc ccngggccca aaaanacttt    900
tccnaaaacc                                                          910
```

```
    <210> 208
    <211> 745
    <212> DNA
    <213> Homo Sapiens
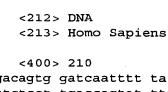
    <400> 208
gacagtggat caatttttat tgagccactt aagtttacaa catgaggtaa aaggaaaaag    60
ttctccttga ccagtatttt acacagctgt aggaaagtat tttagaccag ggattcataa    120
gggatttatc tctcaaaagc tgggaccaag taaacaaatt ttattaactc cttgaatttt    180
ccagttgact cttcctttac aatagtaaca agttctaact agttgtgtaa atttcttcaa    240
ggccaagttt tatcattgtt gctaatatcc ttagagctga agcactgcta tttcaatcaa    300
tatccactaa ttccacttca aaagtgagtt ttgcatttgg tggaattttg gcatcaggct    360
gtcctttctt tccgtaagcc cattctggtt caatctccag tcgagccttt tctcctttac    420
tcatagtcaa gagagcttca tcccatcctc tgataacttt gcctactccg accttaaaac    480
ttaaaggctt ggcattttc ttcttctttg cacttgtttg aatattagta tcaaaaacag    540
tcccatcttg tagtgttcct gtataccaag caagtgaaca acatcnccct ttttgggaaa    600
gttggtttaa cccccttttt cagaacagat ttaagtanat tttgggggac cctcanccaa    660
ggggtcnctt canaactggg tttccttggg gtttaacctt cattnagcct canaattttt    720
tacntggccn cagacacttt tactt                                         745
```

```
    <210> 209
    <211> 965
    <212> DNA
    <213> Homo Sapiens

    <400> 209
ggaagatggc ggcggccgtt ccacagcggg cgtggaccgt ggagcagctg cgcagtgagc    60
agctgcccaa gaaggacatt atcaagtttc tgcaggaaca cggttcagat tcgtttcttg    120
cagaacataa attattagga aacattaaaa atgtggccaa gacagctaac aaggaccact    180
tggttacagc ctataaccat ctttttgaaa ctaagcgttt taagggtact gaaagtataa    240
gtaaagtgtc tgagcaagta aaaaatgtga agcttaatga agataaaccc aaagaaacca    300
agtctgaaga gaccctggat gagggtccac caaaatatac taaatctgtt ctgaaaaagg    360
gagataaaac caactttccc aaaaagggag atgttgttca ctgctggtat acaggaacac    420
tacaagatgg gactgttttt gatactaata ttcaaacaag tgcaagaag aagaaaaatg    480
ccaagccttt aagttttaag gtcggagtag gcaaagttat cagaggatgg gatgaagctc    540
tcttgactat gagtaaagga gaaaaggctc gactggagat tgaaccaaga atgggcttac    600
ggaaagaaag gacagcctga tgccaaaatt ccaccaaatg caaaactcac ttttgaagtg    660
gaattagtgg atattgattg aaatagcagt gcttcagcct ccaaggata ttagcaacaa    720
tgaataaaac tttggncttg angaaaattt acacaaccta gtttagaacc ttgttactat    780
tgttaaagga aagaagtcaa ctgggnaaaa ttcaagggag ttaataaaat ttgtttactt    840
ggnccccagcc ttttgagaga taaatccctt angaaancct ggtccnaaaa tactttccta    900
aagnctgtgt taaataccng ggncaagggn gaaacttttt ccctttaccn caagggtggt    960
aaact                                                               965
```

```
    <210> 210
    <211> 867
```

```
<212> DNA
<213> Homo Sapiens

<400> 210
caagacagtg gatcaatttt tattgagcca cttaagttta caacatgagg taaaaggaaa      60
aagttctcct tgaccagtat tttacacagc tgtaggaaag tattttagac cagggattca     120
taagggattt atctctcaaa agctgggacc aagtaaacaa attttattaa ctccttgaat     180
tttccagttg actcttcctt tacaatagta acaagttcta actagttgtg taaatttctt     240
caaggccaag ttttatcatt gttgctaata tccttagagc tgaagcactg ctatttcaat     300
caatatccac taattccact tcaaaagtga gttttgcatt tggtggaatt ttggcatcag     360
gctgtccttt cttttccgtaa gcccattctg gttcaatctc cagtcgagcc ttttctcctt    420
tactcatagt caagagagct tcatcccatc ctctgataac tttgcctact ccgaccttaa     480
aacttaaagg cttggcattt ttcttcttct ttgcacttgt ttgaatatta gtatcaaaaa     540
cagtcccatc ttgtagtgtt cctgtatacc angcagtgaa caacatctcc cttttttggga    600
aagtttgggt ttaactccct tttttcagaa caagatttag taaaattttg gnnggaccct     660
caatccaagg gtctcttcaa nacttgggtt cctttggggt ttaancctca attaagcctc     720
acaattttttt acttggctca agaaancntt tacttaaacc tttcaggtac cctttaaaaa     780
nccttangtt ttaaaaaaaa tgggttataa gggctggtaa ccnaaggttg ggcccttggt     840
aaccngttct tggggcaaaa ttttttaa                                        867


<210> 211
<211> 972
<212> DNA
<213> Homo Sapiens

<400> 211
ggaagatggc ggcggccgtt ccacagcggg cgtggaccgt ggagcagctg cgcagtgagc      60
agctgcccaa gaaggacatt atcaagtttc tgcaggaaca cggttcagat tcgtttcttg     120
cagaacataa attattagga aacattaaaa atgtggccaa gacagctaac aaggaccact     180
tggttacagc ctataaccat cttttttgaaa ctaagcgttt taagggtact gaaagtataa    240
gtaaagtgtc tgagcaagta aaaaatgtga agcttaatga agataaaccc aaagaaacca     300
agtctgaaga gaccctggat gagggtccac caaaatatac taaatctgtt ctgaaaaagg     360
gagataaaac caactttccc aaaaagggag atgttgttca ctgctggtat acaggaacac     420
tacaagatgg gactgttttt gatactaata ttcaaacaag tgcaagaag aagaaaaatg      480
ccaagccttt aagttttaag gtcggagtag gcaaagttat cagaggatgg gatgaagctc     540
tcttgactat gagtaaagga gaaaaggctc gactggagat tgaaccagaa tgggcttacg     600
gaaagaaagg acagcctgat gccaaaattc caccaaatgc aaaactcact tttgaagtgg     660
aattagtgga tattgattga aatagcagtg cttcagctct aaggatatta gcaacaatga     720
taaaacttgg ccttgaagaa atttacacaa ctagttagaa cttgttacta ttgtaaagga     780
agagtcaact ggaaaattca aggagttaat aaaatttgtt tacttggtcc cagctttttga    840
gagataaatc ccttatgaat ccctggtcta aaatactttc ctacagctgt gtaaaatact     900
ggtcaaggag aacttttttcc ttttacctca tgttgtaaac ttaagtggct caataaaaat    960
tgatccactg tc                                                         972


<210> 212
<211> 817
<212> DNA
<213> Homo Sapiens

<400> 212
aacggctcta agggttatgc ctttgtccac ttcgagaccc aagaggctgc cgacaaggcc      60
atcgagaaga tgaatggcat gctcctcaat gaccgcaaag tatttgtggg cagattcaag     120
tctcgcaaag agcgggaagc tgagcttgga gccaaagcca aggaattcac caatgtttat     180
atcaaaaact ttggggaaga ggtggatgat gagagtctga aagagctatt cagtcagttt     240
ggtaagaccc taagtgtcaa ggtgatgaga gatcccaatg ggaatccaa aggctttggc      300
```

```
tttgtgagtt acgaaaaaca cgaggatgcc aataaggctg tggaagagat gaatggaaaa    360
gaaataagtg gtaaaatcat atttgtaggc cgtgcacaaa agaaagtaga acggcaggca    420
gagttaaaac ggaaatttga acagttgaaa caggagagaa ttagtcgata tcaggggtg     480
aatctctaca ttaagaactt ggatgacact attgatgatg agaaattaag gaaagaattt    540
tctcctttg gatcaattac cagtgctaag gtaatgctgg aggatggaag aagcaaaggg     600
tttggcttcg tctgcttctc atctcctgaa gaancaacca aagcagtcac tggagatgaa    660
tggacgcatt ttggggctcc aaccactata tgttgccctg gccccanagg aagggaanag    720
agaaaggntc accttgacca accagtttta tgcaacgaan tggctgggaa tngagaacca    780
cttcccngcc aatgccaatc tttaaantca gnttcca                            817
```

<210> 213
<211> 756
<212> DNA
<213> Homo Sapiens

<400> 213
```
ctttgatgtg attaagggaa agccaatccg catcatgtgg tctcagaggg atccctcttt     60
gagaaaatct ggtgtgggaa acgtcttcat caagaacctg gacaaatcta tagataacaa    120
ggcacttttat gatactttt ctgcttttgg aaacatactg tcctgcaagg tggtgtgtga    180
tgagaacggc tctaagggtt atgcctttgt ccacttcgag acccaagagg ctgccgacaa    240
ggccatcgag aagatgaatg gcatgctcct caatgaccgc aaagtatttg tgggcagatt    300
caagtctcgc aaagagcggg aagctgagct tggagccaaa gccaaggaat tcaccaatgt    360
ttatatcaaa aactttgggg aagaggtgga tgatgagagt ctgaaagagc tattcagtca    420
gtttggtaag accctaagtg tcaaggtgat gagagatccc aatgggaaat ccaaaggctt    480
tggctttgtg agttacgaaa aacacgagga tgccaataag gctgtggaag agatgaatgg    540
aaaagaaata agtggtaaaa tcatatttgt aggccgtgca caaaagaaag tagaacggca    600
agcagagtta aaacggaaat ttgaacagtt gaaacaggag agaattagtc gatatcangg    660
ggtgaatccc cacattaaga acttggatga cactattgat gatgaagaaa attaaggaaa    720
agaattttcn ccntttggga tnaattaaca agttgc                            756
```

<210> 214
<211> 728
<212> DNA
<213> Homo Sapiens

<400> 214
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atggagattt ttttttcttta ttgggaaacg taagacttgg gtacatcaaa taaaaccaat     60
ttctggggga aaaatcaaa ncccacaata aaaaaaagt taacactgtc tgggccacag     120
cagaacccaa agaacatatt cgtataattg aaaaattcta ggtgcttcat aattgacctt    180
ttgatacaaa atgacctatt aaatttgcaa tttgtaatcc ttggtgttga ggtccatagg    240
acaagctagg aagtcttcaa accttgagtt gaattccata aggggttatt tggcttttga    300
atcggttttt ccttgtctaa gaggtagcag cagcaacagc gcccaccttc tgggcagctt    360
ctttcttggc atgatgagcc tgtagaactg ctacagcttc atccaccttg gagcggagag    420
actcggggga ctctaacatg tgcagcagct canagttgtc tatctccagc agcattcccg    480
tgatcttccc agccagattt gaatgcattg tttggatgan tgggaacaag cgttctccca    540
gcatctgctt ctgttcctgg gggggtgctg canccaacag gaggcaatca ntggntccng    600
gccctgcaca tggaccgcaa ggctggggtg cctgcaaaan gctgtatggc aaggatgaag    660
ggctgccgac actgggaagg cggtattngt aggggggcaa aaanccgggg gaagcancag    720
caacaaca                                                           728
```

<210> 215
<211> 710
<212> DNA
<213> Homo Sapiens
```

⬤   ⬤

```
        <400> 215
atgganattt ttttctttta ttgggaaacg taagacttgg gtacatcaaa taaaaccaaa      60
atctggggga aaaaatcaaa acccacaata aaaaaaaagt taacactgtc tgggccacag     120
canaacccaa agaacatatt cgtataattg aaaaattcta ggtgcttcan aattgacctt     180
ttgatacaaa atgacctatt aaatttgcaa tttgtaancc ttggtgttga ggtccatagg     240
acaagctagg aagtcttcaa accttgagtt gaattccana aggggttatt tggcttttga     300
atcggttttt ccttgtctaa naggtagcag cagcaacagc gcccaccttc tgggcagctt     360
ctttcttggc atgatgagcc tgtanaactg ctacagcttc atccaccttg gagcgganag     420
actcggggga ctctaacatg tgcagcagct canagttgtc tatctccagc agcattcccg     480
tgatcttccc agccagattt gaatgcattg tttggatgan tgggaacaag cgttctccca     540
gcatctgctt ctgttcctgn gggggtgctg canccangca tggaggcaan tcagtggctc     600
ctgcccctgc acaatggacc gcaaggctgg ggggtgcctg canaaggctg tttgggcaag     660
gangaagggc ctgcggaana ctgggangcg tatttgttan gggggggcaaa              710

        <210> 216
        <211> 824
        <212> DNA
        <213> Homo Sapiens

        <400> 216
catggcctcc ctgtacgtgg gcgacctgca ttcggacgtc accgaggcca tgctgtacga      60
aaagttcagc cccgcggggc ctgtgctgtc catccgggtc tgccgcgata tgatcacccg     120
ccgctccctg ggctatgcct acgtcaactt ccagcagccg ccgacgctg agcgggcttt      180
ggacaccatg aactttgatg tgattaaggg aaagccaatc cgcatcatgt ggtctcagag     240
ggatccctct ttgagaaaat ctggtgtggg aaacgtcttc atcaagaacc tggacaaatc     300
tatagataac aaggcacttt atgatacttt ttctgctttt ggaaacatac tgtcctgcaa     360
ggtggtgtgt gatgagaacg gctctaaggg ttatgccttt gtccacttcg agacccaaga     420
ggctgccgac aaggccatcg agaagatgaa tggcatgctc ctcaatgacc gcaaagtatt     480
tgtgggcaga ttcaagtctc gcaaagagcg ggaagctgag cttggagcca aagccaagga     540
attcaccaat gtttatatca aaaactttgg ggaanaggtg gatgatgaga gtctgaaaga     600
agctattcan tcaagtttgg taagaccta agtgtcaang tgatgagaga tccaatggga      660
aatccaaaag gctttgggct ttgtgagttn acgaaaaaca cnaggatgcc aataaggctg     720
ttggaaagaa atgaatggga aaagaaataa antggtaaaa tcataatttg tagggccgtn     780
cacaaaaaga aagtttaaac gggnaggcaa aatttaaaac cggg                     824

        <210> 217
        <211> 749
        <212> DNA
        <213> Homo Sapiens

        <400> 217
atggagattt ttttctttta ttgggaaacg taagacttgg gtacatcaaa taaaaccaat      60
ttctggggga aaaaatcaaa acccacaata aaaaaaaagt taacactgtc tgggccacag     120
cagaacccaa agaacatatt cgtataattg aaaaattcta ggtgcttcat aattgacctt     180
ttgatacaaa atgacctatt aaatttgcaa tttgtaatcc ttggtgttga ggtccatagg     240
acaagctagg aagtcttcaa accttgagtt gaattccata aggggttatt tggcttttga     300
atcggttttt ccttgtctaa gaggtagcag cagcaacagc gcccaccttc tgggcagctt     360
ctttcttggc atgatgagcc tgtagaactg ctacagcttc atccaccttg gagcggagag     420
actcggggga ctctaacatg tgcagcagct cagagttgtc tatctccagc agcattcccg     480
tgatcttccc agccagattt gaatgcatt gtttggatga gtgggaacaa gcgttctccc      540
agcatctgcn tctgttcctg ggggggtgct gcatccagca tgggangcan tcagtggctc     600
ctgcccctgc acatgggacc gcaaggctgg ggtgcctgca naggctgtat gggaaggatg     660
nagggctgcc ggncaactgg ganggcgtat ttgtaggggg caaacaagcc cggggaagca     720
nccagcagca acancaacng cttggcgcc                                      749
```

<210> 218
<211> 600
<212> DNA
<213> Homo Sapiens

<400> 218
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ctttattggg aaacgtaaga cttgggtaca tcaaataaaa ccaatttctg ggggaaaaaa      60
tcaaaaccca caataaaaaa aaagttaaca ctgtctgggc cacagcagaa cccaaagaac     120
atattcgtat aattgaaaaa ttctaggtgc ttcataattg acctttgat acaaaatgac     180
ctattaaatt tgcaatttgt aatccttggt gttgaggtcc ataggacaag ctaggaagtc     240
ttcaaacctt gagttgaatt ccataagggg ttatttggct tttgaatcgg ttttccttg     300
tctaagaggt agcancagca acagcgccca ccttctgggc agcttctttc ttggcatgat     360
gancctgtag aactgctaca gcttcatcna ccttggagcg gngagactcg ggggactcta     420
acatgtgcag cagctcagag ttgtcnatct ccaagcagca ttcccgtgat cttcccagcc     480
anatttgaat gcattgtttg ggatgangtg gggaanaagc gttctcncag canncngctt     540
cnggtnccnn ggaggggggt gcntgcaagc ccagcattga aggcaagttc antggctcct     600
```

<210> 219
<211> 1077
<212> DNA
<213> Homo Sapiens

<400> 219
```
catggcctcc ctgtacgtgg gcgacctgca ttcggacgtc accgaggcca tgctgtacga      60
aaagttcagc cccgcggggc ctgtgctgtc catccgggtc tgccgcgata tgatcacccg     120
ccgctccctg ggctatgcct acgtcaactt ccagcagccg gccgacgctg agcgggcttt     180
ggacaccatg aactttgatg tgattaaggg aaagccaatc cgcatcatgt ggtctcagag     240
ggatccctct ttgagaaaat ctggtgtggg aaacgtcttc atcaagaacc tggacaaatc     300
tatagataac aaggcacttt atgatacttt ttctgctttt ggaaacatac tgtcctgcaa     360
ggtggtgtgt gatgagaacg gctctaaggg ttatgccttt gtccacttcg agacccaaga     420
ggctgccgac aaggccatcg agaagatgaa tggcatgctc ctcaatgacc gcaaagtatt     480
tgtgggcaga ttcaagtctc gcaaagagcg ggaagctgag cttggagcca aagccaagga     540
attcaccaat gtttatatca aaaactttgg ggaagaggtg gatgatgaga gtctgaaaga     600
gctattcagt cagtttggta agaccctaag tgtcaaggtg atgagagatc ccaatgggaa     660
atccaaaggc tttggctttg tgagttacga aaaacacgag gatgccaata aggctgtgga     720
agagatgaat ggaaaagaaa taagtggtaa aatcatattt gtaggccgtg cacaaaagaa     780
agtagaacgg caagcagagt aaaacggaa atttgaacag ttgaaacagg agagaattag     840
tcgatatcan ggggtgaatc cccacattaa gaacttggat gacactattg atgatgagaa     900
attaaggaaa gaattttctc cttttggatc aattaccagt gctaaggtaa tgctggagga     960
tggaagaagc aaagggtttg gcttcgtctg cttctcatct cctgaagaan caaccaaagc    1020
agtcactgga gatgaatgga cgcattttgg ggctccaacc actatatgtt gccctgg      1077
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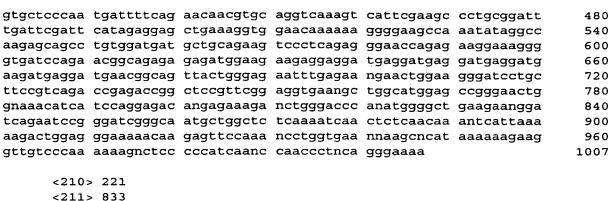
<210> 220
<211> 1007
<212> DNA
<213> Homo Sapiens

<400> 220
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actacatcga tcgcgtggac gagcccttgt cctgctctta tgtgctgacc attcgcactc      60
ctcggctctg ccccaccct ctcctccggc ccccacccag tgctgcaccg caggccatcc     120
tctgtcaccc ttccctacag cctgaggagt acatggccta cgttcagagg caagccgact     180
caaagcagta tggagataaa atcatagagg agctgcaaga tctaggcccc caagtgtgga     240
gtgagaccaa gtctggggtg gcaccccaaa agatggcagg tgcgagcccg accaaggatg     300
acagtaagga ctcagatttc tggaagatgc ttaatgagcc agaggaccag gccccaggag     360
gggaggaggt gccggctgag gagcaggacc caagccctga ggcagcagat tcagcttctg     420
```

```
gtgctcccaa tgattttcag aacaacgtgc aggtcaaagt cattcgaagc cctgcggatt          480
tgattcgatt catagaggag ctgaaaggtg gaacaaaaaa ggggaagcca aatataggcc          540
aagagcagcc tgtggatgat gctgcagaag tccctcagag ggaaccagag aaggaaaggg          600
gtgatccaga acggcagaga gagatggaag aagaggagga tgaggatgag gatgaggatg          660
aagatgagga tgaacggcag ttactgggag aatttgagaa ngaactggaa gggatcctgc          720
ttccgtcaga ccgagaccgg ctccgttcgg aggtgaangc tggcatggag ccgggaactg          780
gnaaacatca tccaggagac angagaaaga nctgggaccc anatggggct gaagaangga          840
tcagaatccg ggatcgggca atgctggctc tcaaaatcaa ctctcaacaa antcattaaa          900
aagactggag ggaaaaacaa gagttccaaa ncctggtgaa nnaagcncat aaaaaagaag          960
gttgtcccaa aaaagnctcc cccatcaanc caaccctnca gggaaaa                       1007
```

        <210> 221
        <211> 833
        <212> DNA
        <213> Homo Sapiens

        <400> 221

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ccgactcaaa gcagtatgga gataaaatca tagaggagct gcaagatcta ggcccccaag           60
tgtggagtga gaccaagtct ggggtggcac cccaaaagat ggcaggtgcg agcccgacca          120
aggatgacag taaggactca gatttctgga agatgcttaa tgagccagag gaccaggccc          180
caggagggga ggaggtgccg gctgaggagc aggacccaag ccctgaggca gcagattcag          240
cttctggtgc tcccaatgat tttcagaaca acgtgcaggt caaagtcatt cgaagccctg          300
cggatttgat tcgattcata gaggagctga aaggtggaac aaaaaagggg aagccaaata          360
taggccaaga gcagcctgtg gatgatgctg cagaagtccc tcagagggaa ccagagaagg          420
aaaggggtga tccagaacgg cagagagaga tggaagaaga ggaggatgag gatgaggatg          480
aggatgaaga tgaggatgaa cggcagttac tgggagaatt tgagaangaa ctggaaggga          540
tcctgcttcc gtcagaccga ccggctcc gttcggaggt gaangctggc atggagccgg          600
gaactggnaa acatcatcca ggagacanga gaaaganctg ggacccanat ggggctgaag          660
aanggatcag aatccgggat cgggcaatgc tggctctcaa aatcaactct caacaaantc          720
attaaaaaga ctggagggaa aaacaagagt tccaaancct ggtgaannaa gcncataaaa          780
aagaaggttg tcccaaaaaa gnctccccca tcaanccaac cctncaggga aaa                833
```

        <210> 222
        <211> 745
        <212> DNA
        <213> Homo Sapiens

        <400> 222

```
ggattgatgg tccagttgtt tatttagaaa cctgattgtt caagaacatg gtgggtgctt           60
cacacctttt tcactgggat tgtgctggag gtgataggca gcattctacc atttcctcag          120
caacagaggt gaaggctcct caactcagaa gcacaaattg taggggacag ggtgggcagg          180
gaaagggaga aggaaatccc aaggcaattc aatagaagag ggtaaaacga ctccaaacat          240
cactaagggc aggtggggc ctgcttgctc agtgcctgct aagtgtcctg ccctccttgc          300
tctctctacc cacctccact caaaagatcc tactgaatct ccaggtaggc agcagggaat          360
atcctatcat taggggacaa taacaggaaa agccacagag gagaggaaga ggattgagtg          420
agagttcagg agagcaaata tcacaggccc ggtgaggtct caaggtggct gccagcaggg          480
gcagcaagca ttcacccagg gcccccacac ccacagagtt gcccgagang tccacaagct          540
cagctccact ctgctgtttg gccctcaagg gttccagggt ggggaagtgg ggaagaggca          600
ngccagtcca ggaagatctg gattccgtga anggtcaag tgtagtgttg gtctcagaag          660
tcaaattntc caagtcccct gttgccctcc ccacctggag aagccccana cccggnggta          720
attgctcncc anctccttct gccgc                                               745
```

        <210> 223
        <211> 747
        <212> DNA

```
<213> Homo Sapiens

<400> 223
actacatcga tcgcgtggac gagcccttgt cctgctctta tgtgctgacc attcgcactc     60
ctcggctctg cccccaccct ctcctccggc ccccacccag tgctgcaccg caggccatcc    120
tctgtcaccc ttccctacag cctgaggagt acatggccta cgttcagagg caagccgact    180
caaagcagta tggagataaa atcatagagg agctgcaaga tctaggcccc caagtgtgga    240
gtgagaccaa gtctggggtg gcaccccaaa agatggcagg tgcgagcccg accaaggatg    300
acagtaagga ctcagatttc tggaagatgc ttaatgagcc agaggaccag gccccaggag    360
gggaggaggt gccggctgag gagcaggacc caagccctga ggcagcagat tcagcttctg    420
gtgctcccaa tgattttcag aacaacgtgc aggtcaaagt cattcgaagc cctgcggatt    480
tgattcgatt catagaggag ctgaaaggtg gaacaaaaaa ggggaagcca aatataggcc    540
aagagcagcc tgtggatgat gctgcagaag tccctcagag ggaaccagag aangaaaggg    600
gtgatccaga acggcagaga gagatgggaa ngaagangan gatgaggatg aggatgaggg    660
atgaaagann aaggatgaaa cgggcaagtt actggggaan aattttgana aagggaactg    720
ggaaagggat tcctggcttt ccgttca                                        747

<210> 224
<211> 618
<212> DNA
<213> Homo Sapiens

<400> 224
gatggtccag ttgtttattt agaaacctga ttgttcaaga acatggtggg tgcttcacac     60
ctttttcgct gggattgtgc tggaggtgat aggcagcatt ctaccatttc ctcagcaaca    120
gaggtgaagg ctcctcaact cagaagcaca aattgtaggg gacagggtgg gcagggaaag    180
ggagaaggaa atcccaaggc aattcaatag aagagggtaa aacgactcca aacatcacta    240
agggcaggtg ggggcctgct tgctcagtgc ctgctaagtg tcctgccctc cttgctctct    300
ctacccacct ccactcaaaa gatcctactg aatctccagg tangcancan ggaatatcct    360
atcattaggg gacaatanca ggaaaagcca cagaggagag gaagaggatt gagtganaag    420
ttcangacag caaattatca caggcccggt gaggtctcaa ngtgngctgc caacaagggg    480
caancagcat tcacccangg gccccacacc cacnnnagtt gccccagagg tccacanctc    540
ancctcccan ctgccngttt ggccctcaag gggttccaan gttcgngaaa gtgggggagg    600
aaggcanccc antcccag                                                  618

<210> 225
<211> 765
<212> DNA
<213> Homo Sapiens

<400> 225
caaacatcag agactgcatg ctggagagaa acttgaagaa tgtgagaaaa ccttcagcaa     60
ggatgaggag cttagaaaag agcagagaac tcaccaggaa aagaaagttt attggtgtaa    120
tcagtgtagt aggaccttcc agggcagctc agatctcatc agacatcagg taactcatac    180
aagagagaaa ccatatgaat gtaaagaatg tgggaaaact caatcagagc tcagaccttc    240
tgagacatca tagaattcac agtggagaaa aaccttacgt atgcaataaa tgtgggggat    300
cttttaggag cagctcagat cttattaaac accatcgtgt tcatactgga gagaaacctc    360
atgaatgtag tgaatgtggg aaagtcttta gccagaggtc ccaccttgtc acacaccaga    420
aaatccacac tggagagaag ccctatcagt gcactgaatg tgaaaaagcc ttcaggcggc    480
gttcactcct tattcaacgt cggagaattc atagtggtga gaaaccctat gaatgtaagg    540
aatgtgggaa actcttcatg tggcacacag ctttcctcaa acatcagaga ctgcatgctg    600
gagagaaact tgaagaatgt gagaaaacct tcagcaagga tganggagct tagggagag    660
cagaaaattc accanggaag agaaagcctt attgggngta atcagtgtgg tanggctttc    720
caagggcagc tcangacctc atcgggccat caggtaactc aatac                    765
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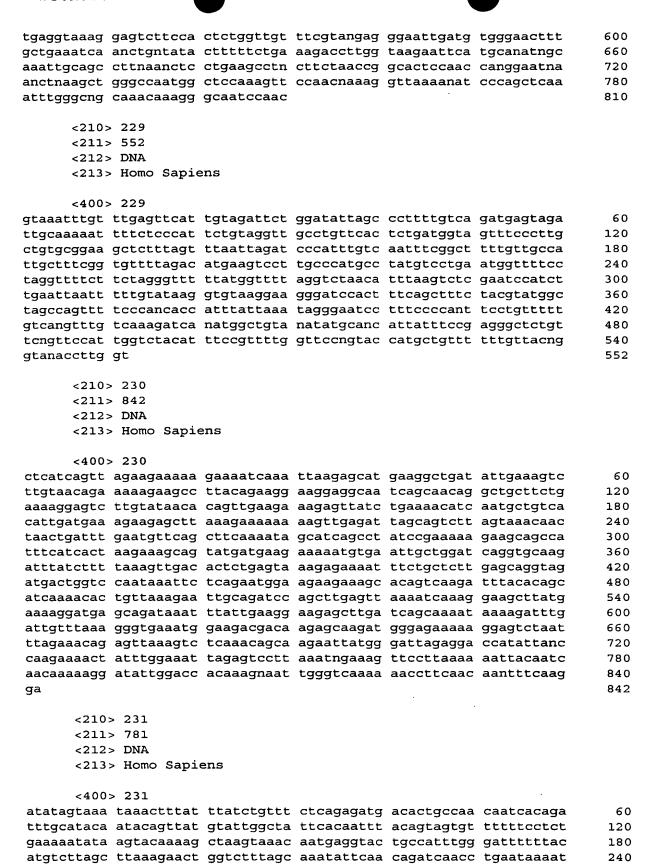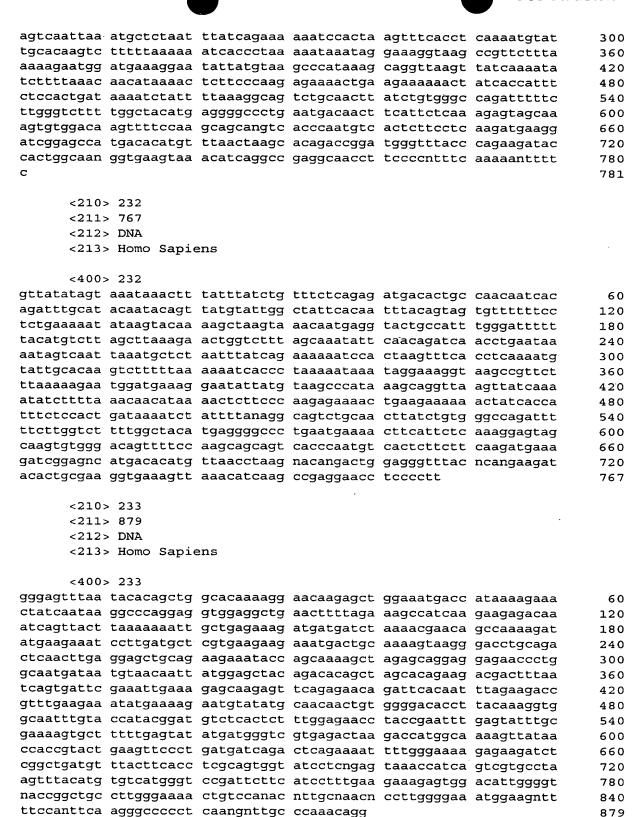
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        <210> 226
        <211> 791
        <212> DNA
        <213> Homo Sapiens


        <400> 226
tggatccaaa gcacccctgg cactgttgtt tatggcccac ctcctgctgg ggcccccatg        60
gtgtatgggc ctccacccccc caacttctcc atcccccttca tccctatggg tgtgctgcat       120
tgcaacgtcc ctgaacacca taacttagag aatgaagttt ctagattaga agacataatg        180
cagcatttaa aatcaaagaa gcgggaagaa aggtggatga gagcatccaa gcggcagtcg        240
gagaaagaaa tggaagaact gcatcataat attgatgatc ttttgcaaga gaagaaaagc        300
ttagagtgtg aagtagaaga attacataga actgtccaga aacgtcaaca gcaaaaggac        360
ttcattgatg gaaatgtaga gagtcttatg actgaactag aaatagaaaa atcactcaaa        420
catcatgaag atattgtaga tgaaattgag tgcattgaga agactcttct gaaacgtcgc        480
tcanagctca gggaagctga ccgactcctg gcagaggctg agagtgaact ttcatgcact        540
aaagaaaaga caaaaaatgc tgttgaaaag ttcactgatg ccaagagaag tttattgcaa        600
actgagtcag atgctgaggg aattagaaag gagagctcan gaaactgctg ttaanctcgt        660
caaanctgat cagcagctaa gatcgctcca agctgatgca aaaggatttg gancancaca        720
angatcaagc aagaagaaat cttgaaaaga aattaacnaa aatttntnca gcaaaagact        780
cagacttcaa a                                                             791


        <210> 227
        <211> 687
        <212> DNA
        <213> Homo Sapiens


        <400> 227
gattgttatc ttttattttc atatgaaaaa tagattttaa gcaaaattca aaaataactc        60
gacactataa aaanagaggg ccttaagtac attcttttttg ttaataagat ttaccagttt       120
gtaggttcaa atatgcagtt aaaatcactg ttttttttta aacatgttac gaagattaaa        180
aaaaaaaagg ctcagccaca tgttggttta aattcccata tgcaactatt cccatatgta        240
ctatgtacaa gtgatttata aaaacattgg cattaatggt acaggcaaag taaactacag        300
tggagtttca naatctcagt tcactgcatc ttgattaaaa aaaccatgtg acattccaat        360
tatgaagtca gtgaggtagt ggaggtgttt tccttgaata tatttacaca agacagtatt        420
cctcatctgg ctgaggcatt cttttccgga ttttgtccaa gttganagtc ctctgtgagg        480
gaagactcca agctgagaca gactgggtga tgacgctgaa tctgcaaagg tgcctggtga        540
ccaattcccc ctaanagcat cctacttgtc tccncaaact gtgntaaagt gccctctgtc        600
ctgccgcttt cctttaatna aaacttctgg cttngcttgg ggcanacagt gtcgganttg        660
gggccttgag tcnggcttcc cggggaa                                            687


        <210> 228
        <211> 810
        <212> DNA
        <213> Homo Sapiens


        <400> 228
gtctgggcag cgccaggcga tggccctgct gctggtgctc ctcgcctctt ggggcctggg        60
gcagtgaggg ggccggcggg cgtgggccga gtggccgcgg gcgccatgga gggggtgctg       120
tacaantgga ccaactatct gagcggttgg cagcctcgat ggttccttct ctgtggggga       180
atattgtcct attatgattc tcctgaagat gcctggaaag gttgcaaagg gagcatacaa        240
atggcagtct gtgaaattca agttcattct gtagataata cacgcatgga cctgataatc        300
cctgggaac agtatttcta cctgaaggcc agaagtgtgg ctgaaagaca gcggtggctg        360
gtggccctgg gatcagccaa ggcttgcctg actgacagta ggacccagaa ggagaaagag        420
tttgctgaaa acactgaaaa cttgaaaacc aaaatgtcan aactaagact ctactgtgac        480
ctccttgttc ancaagtaga ttaaaacata agaagtgacc acaactggtg tgtccaattc        540
```

```
tgaggtaaag gagtcttcca ctctggttgt ttcgtangag ggaattgatg tgggaacttt      600
gctgaaatca anctgntata cttttttctga aagaccttgg taagaattca tgcanatngc      660
aaattgcagc cttnaanctc ctgaagcctn cttctaaccg gcactccaac canggaatna      720
anctnaagct gggccaatgg ctccaaagtt ccaacnaaag gttaaaanat cccagctcaa      780
atttgggcng caaacaaagg gcaatccaac                                       810
```

```
        <210> 229
        <211> 552
        <212> DNA
        <213> Homo Sapiens

        <400> 229
gtaaatttgt ttgagttcat tgtagattct ggatattagc cctttttgtca gatgagtaga       60
ttgcaaaaat tttctcccat tctgtaggtt gcctgttcac tctgatggta gtttcccttg      120
ctgtgcggaa gctctttagt ttaattagat cccatttgtc aatttcggct tttgttgcca      180
ttgctttcgg tgttttagac atgaagtcct tgcccatgcc tatgtcctga atggttttcc      240
taggttttct tctagggttt ttatggtttt aggtctaaca tttaagtctc gaatccatct      300
tgaattaatt tttgtataag gtgtaaggaa gggatccact ttcagctttc tacgtatggc      360
tagccagttt tcccancacc atttattaaa tagggaatcc tttccccant tcctgttttt      420
gtcangtttg tcaaagatca natggctgta natatgcanc attatttccg agggctctgt      480
tcngttccat tggtctacat ttccgttttg gttccngtac catgctgttt tttgttacng      540
gtanaccttg gt                                                          552
```

```
        <210> 230
        <211> 842
        <212> DNA
        <213> Homo Sapiens

        <400> 230
ctcatcagtt agaagaaaaa gaaaatcaaa ttaagagcat gaaggctgat attgaaagtc       60
ttgtaacaga aaaagaagcc ttacagaagg aaggaggcaa tcagcaacag gctgcttctg      120
aaaaggagtc ttgtataaca cagttgaaga aagagttatc tgaaaacatc aatgctgtca      180
cattgatgaa agaagagctt aaagaaaaaa aagttgagat tagcagtctt agtaaacaac      240
taactgattt gaatgttcag cttcaaaata gcatcagcct atccgaaaaa gaagcagcca      300
tttcatcact aagaaagcag tatgatgaag aaaaatgtga attgctggat caggtgcaag      360
atttatcttt taaagttgac actctgagta aagagaaaat ttctgctctt gagcaggtag      420
atgactggtc caataaattc tcagaatgga agaagaaagc acagtcaaga tttacacagc      480
atcaaaacac tgttaaagaa ttgcagatcc agcttgagtt aaaatcaaag gaagcttatg      540
aaaaggatga gcagataaat ttattgaagg aagagcttga tcagcaaaat aaaagatttg      600
attgtttaaa gggtgaaatg gaagacgaca agagcaagat gggagaaaaa ggagtctaat      660
ttagaaacag agttaaagtc tcaaacagca agaattatgg gattagagga ccatattanc      720
caagaaaact atttggaaat tagagtcctt aaatngaaag ttccttaaaa aattacaatc      780
aacaaaaagg atattggacc acaaagnaat tgggtcaaaa aaccttcaac aantttcaag      840
ga                                                                     842
```

```
        <210> 231
        <211> 781
        <212> DNA
        <213> Homo Sapiens

        <400> 231
atatagtaaa taaactttat ttatctgttt ctcagagatg acactgccaa caatcacaga       60
tttgcataca atacagttat gtattggcta ttcacaattt acagtagtgt ttttttcctct      120
gaaaaatata agtacaaaag ctaagtaaac aatgaggtac tgccatttgg gattttttac      180
atgtcttagc ttaaagaact ggtctttagc aaatattcaa cagatcaacc tgaataaaat      240
```

```
agtcaattaa atgctctaat ttatcagaaa aaatccacta agtttcacct caaaatgtat    300
tgcacaagtc tttttaaaaa atcaccctaa aaataaatag gaaaggtaag ccgttcttta    360
aaaagaatgg atgaaaggaa tattatgtaa gcccataaag caggttaagt tatcaaaata    420
tcttttaaac aacataaaac tcttcccaag agaaaactga agaaaaaact atcaccattt    480
ctccactgat aaaatctatt ttaaaggcag tctgcaactt atctgtgggc cagattttc    540
ttgggtcttt tggctacatg aggggccctg aatgacaact tcattctcaa agagtagcaa    600
agtgtggaca agttttccaa gcagcangtc acccaatgtc actcttcctc aagatgaagg    660
atcggagcca tgacacatgt ttaactaagc acagaccgga tgggtttacc cagaagatac    720
cactggcaan ggtgaagtaa acatcaggcc gaggcaacct tccccntttc aaaaantttt    780
c                                                                     781
```

```
        <210> 232
        <211> 767
        <212> DNA
        <213> Homo Sapiens

        <400> 232
gttatatagt aaataaactt tatttatctg tttctcagag atgacactgc caacaatcac     60
agatttgcat acaatacagt tatgtattgg ctattcacaa tttacagtag tgttttttcc    120
tctgaaaaat ataagtacaa aagctaagta aacaatgagg tactgccatt tgggattttt    180
tacatgtctt agcttaaaga actggtcttt agcaaatatt caacagatca acctgaataa    240
aatagtcaat taaatgctct aatttatcag aaaaaatcca ctaagtttca cctcaaaatg    300
tattgcacaa gtcttttta aaaatcaccc taaaaataaa taggaaaggt aagccgttct    360
ttaaaaagaa tggatgaaag gaatattatg taagcccata aagcaggtta agttatcaaa    420
atatctttta aacaacataa aactcttccc aagagaaaac tgaagaaaaa actatcacca    480
tttctccact gataaaatct attttanagg cagtctgcaa cttatctgtg ggccagattt    540
ttcttggtct tttggctaca tgaggggccc tgaatgaaaa cttcattctc aaaggagtag    600
caagtgtggg acagttttcc aagcagcagt cacccaatgt cactcttctt caagatgaaa    660
gatcggagnc atgacacatg ttaacctaag nacangactg gagggtttac ncangaagat    720
acactgcgaa ggtgaaagtt aaacatcaag ccgaggaacc tcccctt                 767
```

```
        <210> 233
        <211> 879
        <212> DNA
        <213> Homo Sapiens

        <400> 233
gggagtttaa tacacagctg gcacaaaagg aacaagagct ggaaatgacc ataaaagaaa     60
ctatcaataa ggcccaggag gtggaggctg aacttttaga aagccatcaa gaagagacaa    120
atcagttact taaaaaaatt gctgagaaag atgatgatct aaaacgaaca gccaaaagat    180
atgaagaaat ccttgatgct cgtgaagaag aaatgactgc aaaagtaagg gacctgcaga    240
ctcaacttga ggagctgcag aagaaatacc agcaaaagct agagcaggag gagaaccctg    300
gcaatgataa tgtaacaatt atggagctac agacacagct agcacagaag acgactttaa    360
tcagtgattc gaaattgaaa gagcaagagt tcagagaaca gattcacaat ttagaagacc    420
gtttgaagaa atatgaaaag aatgtatatg caacaactgt ggggacacct tacaaaggtg    480
gcaatttgta ccatacggat gtctcactct ttggagaacc taccgaattt gagtatttgc    540
gaaaagtgct ttttgagtat atgatgggtc gtgagactaa gaccatggca aaagttataa    600
ccaccgtact gaagttccct gatgatcaga ctcagaaaat tttgggaaaa gagaagatct    660
cggctgatgt ttacttcacc tcgcagtggt atcctcngag taaaccatca gtcgtgccta    720
agtttacatg tgtcatgggt ccgattcttc atcctttgaa gaaagagtgg acattggggt    780
naccggctgc cttgggaaaa ctgtccanac nttgcnaacn ccttggggaa atggaagntt    840
ttccanttca agggcccccct caangnttgc ccaaacagg                          879
```

```
        <210> 234
        <211> 780
```

```
         <212> DNA
         <213> Homo Sapiens

         <400> 234
aaactttatt tatctgtttc tcagagatga cactgccaac aatcacagat ttgcatacaa      60
tacagttatg tattggnnng gcacaattta cagtagtgtt ttttcctctg aaaaatataa     120
gtacaaaagc taagtaaaca atgaggtact gccatttggg attttttaca tgtcttagct     180
taaagaactg gtctttagca aatattcaac agatcaacct gaataaaata gtcaattaaa     240
tgctctaatt tatcagaaaa aatccactaa gtttcacctc aaaatgtatt gcacaagtct     300
ttttaaaaaa tcaccctaaa aataaatagg aaaggtaagc cgttctttaa aaagaatgga     360
tgaaaggaat attatgtaag cccataaagc aggttaagtt atcaaaatat cttttaaaca     420
acataaaact cttcccaaga gaaaactgaa gaaaaaacta tcaccatttc tccactgata     480
aaatctattt taaaggcagt ctgcaactta tctgtgggcc agatttttct tggtcttttg     540
gctacatgag gggccctgaa tgaaaacttc attctcaaag agtagcaagt gtggacaagt     600
tttccaagca gcagtcancc aatgtcactc ttcttcaaga tgaaagatcg gagccatgac     660
acatgttaac taagcacaga cntgatggtt tactncagaa gattaccact gcnaaggtga     720
aagttaaaca tcaagncgag catncntctc tttccaaaaa ttttccggng tccggattca     780

         <210> 235
         <211> 780
         <212> DNA
         <213> Homo Sapiens

         <400> 235
attctgaggg tatattaagt cagagtcagg ataaatcact tcggagaata gcagaattaa      60
gagaggagct ccaaatggac cagcaggcaa agaaacatct gcaagaggag tttgatgcat     120
ctttagagga gaaagatcag tatatcagtg ttctccaaac tcaggtttct ctactgaaac     180
aacgattacg aaatggcccg atgaatgttg atgtactgaa accacttcct cagctggaac     240
cacaggctga agtcttcact aaagaagaga atccagaaag tgatggagag ccagtagtgg     300
aagatggaac ttctgtaaaa acactggaaa cactccagca aagagtgaag cgtcaagaga     360
acctacttaa gcgttgtaag gaaacaattc agtcacataa ggaacaatgt acactattaa     420
ctagtgaaaa agaagctctg caagaacaac tggatgaaag acttcaagaa ctagaaaaga     480
taaaggacct tcatatggcc gagaagacta aacttatcac tcagttgcgt gatgcaaaga     540
acttaattga acagcttgaa caaggataag ggaatggtaa tcgcagagac aaaacgtcag     600
atgcatgaaa ccctggaaat gaaagaagaa gaaattgctc aactccgtag tcgcatcaaa     660
cagatgacta cccaagggag aggaattacg ggaacaagan agaaaagtcc gaaagaactg     720
cntttgaggg aacttgaaaa agccttgagt acagnccaaa aanacagngg aagccaccgg     780

         <210> 236
         <211> 711
         <212> DNA
         <213> Homo Sapiens

         <400> 236
cttggttttt aaatttggtt tcatattcct cattcaaaat atgaatactg tcctccttgg      60
ctgacaattt ctgtgtgagt atctcaattt ctttcttctg tccttctctc atttgtaaaa     120
tcatattttc cttttccacc aagatttgct ttgtctgttc ctgttctttg ttaccatctt     180
caagtttgga ctcatagact tgggttaaag attttacttt ttgctccatt tcactatttt     240
gttttttcaag ttgctgcatt aagtcctgca cctggatttt gtgagcatct aactcagtac     300
aaacatcttt cttttgtgct tcaacttcag caacctgttt ggtaagaaga attctttctg     360
tttccaaatc caacaacttc tgctgcaatt gggccaactg ttcctcatat gcttttgtct     420
gctcatgtgt ggcactctgg taagactgaa aaacgtccag cttagcagat gcctgctgga     480
gttcccctttc agaccttta atatctgcct ccaaattttc tacatgagcc tgatgctctt     540
tcaaatgctt gtccctttcc ttcaagagaa gctcaagttg nttaanttga tcttttaaag     600
ccttctcaan tcctccggga tanaaaacnt cgtgttcttt naatgagaac ggtcaacntg     660
```
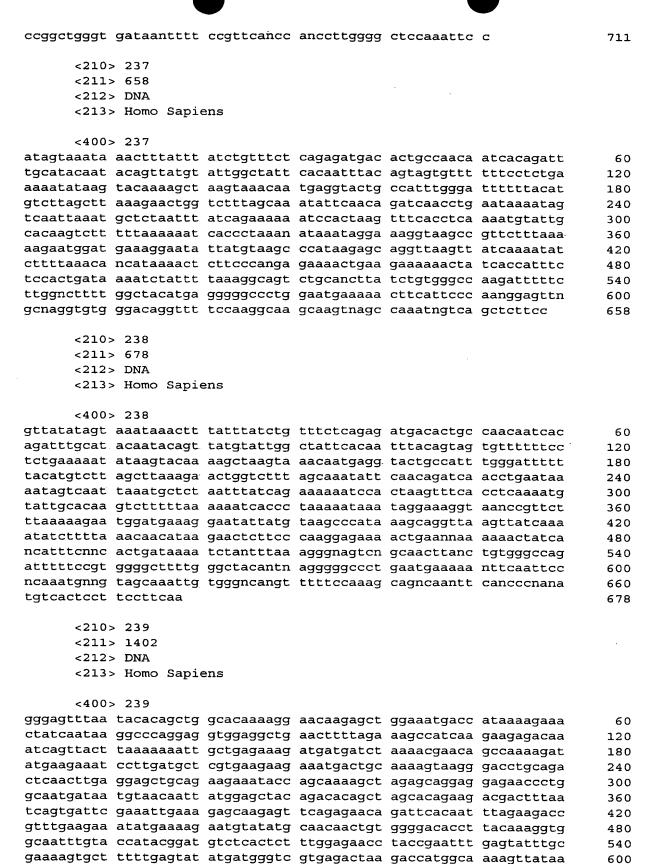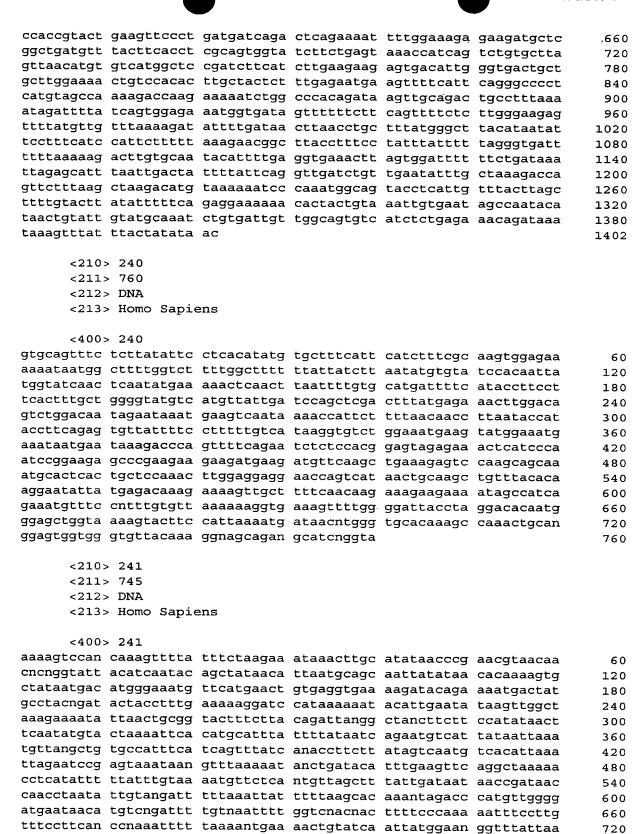
```
ccggctgggt gataantttt ccgttcancc anccttgggg ctccaaattc c          711
```

```
        <210> 237
        <211> 658
        <212> DNA
        <213> Homo Sapiens

        <400> 237
atagtaaata aactttattt atctgtttct cagagatgac actgccaaca atcacagatt   60
tgcatacaat acagttatgt attggctatt cacaatttac agtagtgttt tttcctctga  120
aaaatataag tacaaaagct aagtaaacaa tgaggtactg ccatttggga tttttacat   180
gtcttagctt aaagaactgg tctttagcaa atattcaaca gatcaacctg aataaaatag  240
tcaattaaat gctctaattt atcagaaaaa atccactaag tttcacctca aaatgtattg  300
cacaagtctt tttaaaaaat caccctaaan ataaatagga aggtaagcc gttctttaaa  360
aagaatggat gaaaggaata ttatgtaagc ccataagagc aggttaagtt atcaaaatat  420
cttttaaaca ncataaaact cttcccanga gaaaactgaa gaaaaaacta tcaccatttc  480
tccactgata aaatctattt taaaggcagt ctgcanctta tctgtgggcc aagatttttc  540
ttggnctttt ggctacatga gggggccctg gaatgaaaaa cttcattccc aanggagttn  600
gcnaggtgtg ggacaggttt tccaaggcaa gcaagtnagc caaatngtca gctcttcc     658
```

```
        <210> 238
        <211> 678
        <212> DNA
        <213> Homo Sapiens

        <400> 238
gttatatagt aaataaactt tatttatctg tttctcagag atgacactgc caacaatcac   60
agatttgcat acaatacagt tatgtattgg ctattcacaa tttacagtag tgttttttcc  120
tctgaaaaat ataagtacaa aagctaagta acaatgagg tactgccatt tgggattttt   180
tacatgtctt agcttaaaga actggtcttt agcaaatatt caacagatca acctgaataa  240
aatagtcaat taaatgctct aatttatcag aaaaaatcca ctaagtttca cctcaaaatg  300
tattgcacaa gtctttttaa aaaatcaccc taaaataaa taggaaaggt aanccgttct  360
ttaaaaagaa tggatgaaag gaatattatg taagcccata aagcaggtta agttatcaaa  420
atatctttta aacaacataa gaactcttcc caaggagaaa actgaannaa aaaactatca  480
ncatttcnnc actgataaaa tctantttaa agggnagtcn gcaacttanc tgtgggccag  540
atttttccgt ggggcttttg ggctacantn agggggccct gaatgaaaaa nttcaattcc  600
ncaaatgnng tagcaaattg tgggncangt ttttccaaag cagncaantt cancccnana  660
tgtcactcct ccttcaa                                                 678
```

```
        <210> 239
        <211> 1402
        <212> DNA
        <213> Homo Sapiens

        <400> 239
gggagtttaa tacacagctg gcacaaaagg aacaagagct ggaaatgacc ataaagaaa    60
ctatcaataa ggcccaggag gtggaggctg aacttttaga aagccatcaa gaagagacaa  120
atcagttact taaaaaaatt gctgagaaag atgatgatct aaaacgaaca gccaaaagat  180
atgaagaaat ccttgatgct cgtgaagaag aaatgactgc aaaagtaagg gacctgcaga  240
ctcaacttga ggagctgcag aagaaatacc agcaaaagct agagcaggag gagaaccctg  300
gcaatgataa tgtaacaatt atggagctac agacacagct agcacagaag acgactttaa  360
tcagtgattc gaaattgaaa gagcaagagt tcagagaaca gattcacaat ttagaagacc  420
gtttgaagaa atatgaaaag aatgtatatg caacaactgt ggggacacct tacaaaggtg  480
gcaatttgta ccatacggat gtctcactct ttggagaacc taccgaattt gagtatttgc  540
gaaaagtgct ttttgagtat atgatgggtc gtgagactaa gaccatggca aaagttataa  600
```

```
ccaccgtact gaagttccct gatgatcaga ctcagaaaat tttggaaaga gaagatgctc      .660
ggctgatgtt tacttcacct cgcagtggta tcttctgagt aaaccatcag tctgtgctta       720
gttaacatgt gtcatggctc cgatcttcat cttgaagaag agtgacattg ggtgactgct       780
gcttggaaaa ctgtccacac ttgctactct ttgagaatga agttttcatt cagggcccct       840
catgtagcca aaagaccaag aaaaatctgg cccacagata agttgcagac tgcctttaaa       900
atagatttta tcagtggaga aatggtgata gttttttctt cagttttctc ttgggaagag       960
ttttatgttg tttaaaagat attttgataa cttaacctgc tttatgggct tacataatat      1020
tcctttcatc cattcttttt aaagaacggc ttacctttcc tatttatttt tagggtgatt      1080
ttttaaaaag acttgtgcaa tacattttga ggtgaaactt agtggatttt ttctgataaa      1140
ttagagcatt taattgacta ttttattcag gttgatctgt tgaatatttg ctaaagacca      1200
gttctttaag ctaagacatg taaaaaatcc caaatggcag tacctcattg tttacttagc      1260
ttttgtactt atattttttca gaggaaaaaa cactactgta aattgtgaat agccaataca      1320
taactgtatt gtatgcaaat ctgtgattgt tggcagtgtc atctctgaga aacagataaa      1380
taaagtttat ttactatata ac                                              1402
```

<210> 240
<211> 760
<212> DNA
<213> Homo Sapiens

<400> 240

```
gtgcagtttc tcttatattc ctcacatatg tgctttcatt catctttcgc aagtggagaa        60
aaaataatgg cttttggtct tttggctttt ttattatctt aatatgtgta tccacaatta       120
tggtatcaac tcaatatgaa aaactcaact taattttgtg catgattttc ataccttcct       180
tcactttgct ggggtatgtc atgttattga tccagctcga ctttatgaga aacttggaca       240
gtctggacaa tagaataaat gaagtcaata aaaccattct tttaacaacc ttaataccat       300
accttcagag tgttattttc cttttttgtca taaggtgtct ggaaatgaag tatggaaatg       360
aaataatgaa taaagaccca gttttcagaa tctctccacg gagtagagaa actcatccca       420
atccggaaga gcccgaagaa gaagatgaag atgttcaagc tgaaagagtc caagcagcaa       480
atgcactcac tgctccaaac ttggaggagg aaccagtcat aactgcaagc tgtttacaca       540
aggaatatta tgagacaaag aaaagttgct tttcaacaag aaagaagaaa atagccatca       600
gaaatgtttc cntttgtgtt aaaaaaggtg aaagttttgg ggattaccta ggacacaatg       660
ggagctggta aaagtacttc cattaaaatg ataacntggg tgcacaaagc caaactgcan       720
ggagtggtgg gtgttacaaa ggnagcagan gcatcnggta                           760
```

<210> 241
<211> 745
<212> DNA
<213> Homo Sapiens

<400> 241

```
aaaagtccan caaagttta tttctaagaa ataaacttgc atataacccg aacgtaacaa        60
cncnggtatt acatcaatac agctataaca ttaatgcagc aattatataa cacaaaagtg       120
ctataatgac atgggaaatg ttcatgaact gtgaggtgaa aagatacaga aaatgactat       180
gcctacngat actacctttg aaaaaggatc cataaaaaat acattgaata taagttggct       240
aaagaaaata ttaactgcgg tacttcttta cagattangg ctancttctt ccatataact       300
tcaatatgta ctaaaattca catgcattta ttttataatc agaatgtcat tataattaaa       360
tgttangctg tgccatttca tcagtttatc anaccttctt atagtcaatg tcacattaaa       420
ttagaatccg agtaaataan gtttaaaaat anctgataca tttgaagttc aggctaaaaa       480
cctcatattt ttatttgtaa aatgttctca ntgttagctt tattgataat aaccgataac       540
caacctaata ttgtangatt tttaaattat ttttaagcac aaantagacc catgttgggg       600
atgaataaca tgtcngattt tgtnaatttt ggtcnacnac ttttcccaaa aatttccttg       660
tttccttcan ccnaaatttt taaaantgaa aactgtatca attatggaan ggtttattaa       720
aangtttncc tttggtaacc ngaag                                           745
```

```
<210> 242
<211> 818
<212> DNA
<213> Homo Sapiens

<400> 242
gcaacgccgg ggcgcccgag gtctggaagg cgcagaaatg gagcaagagc cacaaaatgg      60
agaacctgct gaaattaaga tcatcagaga agcatataag aaggcctttt tatttgttaa     120
caaaggtctg aatacagatg aattaggtca gaaggaagaa gcaaagaact actataagca     180
aggaatagga cacctgctca gagggatcag catttcatca aaagagtctg aacacacagg     240
tcctgggtgg gaatctgcta gacagatgca acagaaaatg aaagaaactc tacagaatgt     300
acgcaccagg ctggaaattc tagagaaggg tcttgccact tctctgcaga atgatcttca     360
ggaggtgccc aagttatatc cagaatttcc acctaaagac atgtgtgaaa aattaccaga     420
gcctcagtct tttagttcag ctcctcagca tgctgaagta aatggaaaca cctcaactcc     480
aagtgcaggg gcagttgctg cacctgcttc tctgtcttta ccatcacaaa gttgtccagc     540
agaagctcct cctgcttata ctcctcaagc tgctgaaggt cactacactg tatcctatgg     600
aacagattct ggggagtttt catcagttgg agaggagttt tatagggaat cattctcagc     660
caacggcctc ttnagaacct_taagggctgg gattcangat gaaattgatt ttgataccaa     720
atgggagtac annttttttt tgtaaatcct gcaangggga ngttatgcan cttcgtancc     780
ccggggtacc ttcnaattgt gaagggtttt gggntaaa                            818

<210> 243
<211> 799
<212> DNA
<213> Homo Sapiens

<400> 243
aatttcttga agtacttttt taatccaatt aagctgataa taatcacttc gaattttaat      60
acaatacaat catgttccca aatttccnag gctcataaca atacagtctc aatacaaaag     120
acgtaataat ctattttat tcattttaaa tcaaagaaac cattccattt cctaacaaac     180
aggtaagtta caaaagtagt ccattttact tttcatcagt ctttccctgt tttgaacaag     240
tcttttgag aattcttagt tttagttttt gtttagctta cacactgaaa attttgagaa     300
gcatctaaaa aaatccacaa ttagtgcaaa aagaggggac aatactttaa gtcattcctt     360
ctataaaaag aattaaggtt actaaatgcc aatttttaag caaatatata gtttcctatt     420
tgccttctga aagacagcag atataaaaat agttcaatat taggtttaac aaggtttgaa     480
caacacatgt actatcagct ttatttacc tgcaaaaata ttttagctac acttggaaaa     540
aaaataaact tgagaatata acttcacatt tctaaggcca gatgcaagaa tacttaatct     600
tttcctttta aatagaagac atgccataaa atttatgaaa agttaatttg taggaatggn     660
atacatttaa aaaatacngg ttaaaccngg tgagggaatt ccacatttgg cctatttaac     720
aaaaatttta aaccaatttt caaaaggggc tttggggtaa aaagtngatt cccaagcaac     780
ntcaancant ttaaccttc                                                  799

<210> 244
<211> 726
<212> DNA
<213> Homo Sapiens

<400> 244
gtgagttgag cgctgctgct ccgcggtgga gtcaccgcac cgctcccggg atcatggtgt      60
tctacttcac cagcagcagc gttaattcat ctgcctacac tatttacatg ggaaaagata     120
aatatgaaaa tgaagatctg atcaagcatg ctggcctga agatatctgg tttcatgtgg     180
acaaactctc ttcggctcat gtataccttc gattacataa gggagagaat atagaagaca     240
tcccaaagga agtgctgatg gactgtgccc accttgtgaa ggccaatagc attcaaggct     300
gcaagatgaa caacgttaat gtggtatata cgccgtggtc taacctgaag aaaacagctg     360
acatggatgt ggggcagata ggctttcaca ggcagaagga tgtaaaaatt gtgacagtgg     420
```

-163-

```
agaagaaagt aaatgagatc ctgaaccgat tagaaaagac caaagtcgag cggttcccag        480
acctancagc agagaaagaa tgcagagatc gtgaagagag gaatgagaaa aaagcccaaa        540
ttcaggaaat gaaaaagaga gaaanagaag aaatgaagaa gaanagggaa atggatgaac        600
ttangagcta ttcatcacta atgaaagttt gaaaatatgt cttcanatca ggatggcaat        660
ggattcagat gaattcatgt taaaaggaga aaaggngaaa aaggaccttt gaaaaatttg        720
aatgtt                                                                   726
```

        <210> 245
        <211> 592
        <212> DNA
        <213> Homo Sapiens

        <400> 245

```
ccagattaaa aaaatggtat tttattataa cttttaaaat tgcggaacat cagactgaat         60
atcatcagac acatacacaa aaccactcat ctctaaagtc attttctata ccctctcaaa        120
atttggccag tgagttttgc ctcagggaat tttccagttc aaccccatac accaacatgg        180
aataaatgga aacactagcc ttttggtttt gcccanagtt ccaaagtgct attacaggtg        240
gaatatctgc tgcaggaagt cattcttgct gctgtgggtg tgagtaaaat gcttagttcc        300
ttctaaaatc ataattgcaa tatggacttc tgcttcacgc tgcatcctaa ggcacaaatc        360
aggtaaccta catctcccaa atgatcaaca ggagcactcc atcctatttt accctcaatg        420
cnganaaatt acncctgggc ccanaagttg tcacataggt ggcttgggtt acttggggct        480
caggcaacaa ctgccacagg ccccagcttg atgaanacca tcnatttctt taaaatatgt        540
tggnnactaa gatggaggcc tccggcncan agggaancan nggacataaa ac              592
```

        <210> 246
        <211> 821
        <212> DNA
        <213> Homo Sapiens

        <400> 246

```
aggatgaaga gctggagagc gccgaggacg acgagcgcag ctgtcggggc cgcgagtcgg         60
acgaagacac tgaggatgct agtgaaactg acctggcaaa gcatgatgaa gaagactatg        120
tagaaatgaa ggaacagatg tatcaggaca aactggcttc tctcaagagg cagttgcaac        180
aactgcaaga aggtacatta caggaatatc agaagagaat gaaaaaacta gatcagcagt        240
acaaagagag gatacggaat gcagaactct tcctccagct ggaaactgaa caagtggaac        300
gaaattacat taaagaaaag aaggcagcag tgaaagaatt tgaagacaag aaggttgagc        360
tgaaagagaa cctgattgct gagctagaag aaaagaagaa aatgattgaa aatgaaaagc        420
tgacaatgga actgactgga gattctatgg aggtgaaacc tatcatgacc agaaagttgc        480
ggaggcgacc aaatgatccc gtccccatcc cagacaagag gaggaaacct gctccagccc        540
agctaaacta tttgttaaca ggatgaacag atcatggagg atctgagaac attaaataag        600
cttaagtcac ccaagagacc agcatctcca tcctctcctg agcacttgcc tgcaacaccc        660
gccggaatct ccaagcccca gaggttcnaa agccccggat anaagaatgg caaacctgtt        720
actatgacaa aaagatggtt accacaagag ccaaggccat cctatcctgg angtcaaagg        780
gacaaaccan gaaactgaag cctgcctnat taagtttccg t                          821
```

        <210> 247
        <211> 639
        <212> DNA
        <213> Homo Sapiens

        <400> 247

```
gttacacaaa gcatttattt ctctgagaag gccgagagcc acgagaattc atcatctcct         60
gctaggacct ctgccccaag cttctgggca aatagtgaat tggacgcgac agggaaagta        120
gctacgtgat ccactaatca gattcaaaac atgaaaatgc actggagagt gtatcccttc        180
ctgctcttct ccatggtaga gagacttaaa gataatcaat aaaaatagct gtcccttcaa        240
```

                                    -164-

```
actcagagga ggttttcaaa aacaagtata agcaaaaaat aaagaaataa aaggaaagta      300
aatcaaaccc cccaatacgc ctgaaagtaa aacagtctca tggtgactga tgtctggaan      360
aagttgaggc agaaaagact gacaaagttg gaangcatcc cggccacaaa agtgcccnaa      420
aagaattcan tgcagtgctc tccatttcca aggctgagta actattccca gntaagttaa      480
cattttcna  nttaaggana nancgaanac anntncatnt ctanatccca ctccagaaat      540
anggtcaatg agaangangc actgtannna aagtcaagna gctggancnc ccgggcggnt      600
tnacccaaga gcccggcgct nnaagcctgg gcccaagct                            639
```

```
        <210> 248
        <211> 846
        <212> DNA
        <213> Homo Sapiens


        <400> 248
aacaggatgt caaaaattaa actgcgcttt ccatcacaat agaggacgat atgttgatgg       60
ccttttccta cctccgagca aaactgtgtt gcccactgtg cctgagtcac cagaagagga      120
agtgaaggct agccaacttt cagttcagca gaacaaattg tctgtccagt ccaatccttc      180
ccctcagctg cggagcgtta tgaaagtaga aagttccgaa aatgttccta gccccacgca      240
tccaccagtt gtaattaatg ctgcagatga tgatgaagat gatgatgatc agttttctga      300
ggaaggtgat gaaaccaaaa cacctaccct gcaaccaact cctgaagttc acaatggatt      360
acgagtgact tctgtccgga aacctgcagt caatataaag caaggtgaat gtttgaattt      420
tggaataaaa actcttgagg aaattaagtc aaagaaaatg aaggaaaaat ctaagaagca      480
aggtgagggt tcttcaggag tttccagtct tttactccac cctgagcccg ttccaggtcc      540
tgaaaaagaa aatgtcagga ctgtggtgag gacagtaact ctctccacca aacaaggaga      600
agaacccttg gttagattga gtcttactga gagactgggg aaacgaaaat tttcagcagg      660
cggtgacagt gatcctccat taaagcgtag cctggcacan aggctaaggg aagaaagttg      720
aagctccaga aactaacant gacaaaacac caangaaagc tcaagtttcc aagtcccct      780
aaaggggcga attaggcatg tcagccngga ttcaagataa tnagggatgc aacaagatta      840
aaggtt                                                                846
```

```
        <210> 249
        <211> 763
        <212> DNA
        <213> Homo Sapiens


        <400> 249
gactttccta catcagtttt atttaaaaca caaacaagta tttctctttc tgtaagggca       60
aatggttcaa ataatgcgga acacgaaaca ttgactaata caagtgcttt aaatatgaaa      120
caaaattatt ttttaaaaaa gcaaagaat aaagaatata tacaaaaggg acctggaatc      180
tgtaagctga ttccaaaaat gaaataagta gaaaatccat ggtgaaacct gaacattcta      240
cctctgcttt ggagaagggc tatcatacaa cattcagtca gctgaagatg gattggtaga      300
ggtgtgtcta tacataaact tcagtcattt ttgcttgtgc agaatcatcc caatcttccc      360
aagactgaat gggcagtcct gtggctttct tccttttcca tattcccaac aaggctacgt      420
gaagttcaac tcttgatgag ccgcttacaa cagcagttcc ttaggagcca acatgacagg      480
tgggtcagat ttccctatga gaaacaaaac tggccaccta cagcaaaata tcaaaatggg      540
taagtccttc cttcctcttc ctcctgatta tatacaacat atctcctttc aagactatta      600
tttccatcat gccttattcc ttcacaaatc taaaccttga ngtgatatga angaaaccaa      660
catcaagaaa agaaaactca attcagaaat gaanaaaacg ggcaggtata caatacaccc      720
cagagcatct caatatcccc tgggacagnt acaattcagt gtt                       763
```

```
        <210> 250
        <211> 899
        <212> DNA
        <213> Homo Sapiens
```

<400> 250

```
attcaagtca agagatgtga gaccatgaga gagaagcaca tgcagaaaca gcaggagagg      60
gaaaaatcag tcttgacacc tcttcgggga gatgtagcct cttgcaatac ccaagtggca     120
gagaaaccag tgctcactgc tgtgccagga atcacacggc acctgaccaa gcggcttccc     180
acaaagtcat cccagaaggt ggaggtagaa acctcaggga ttggagactc attattgaat     240
gtgaaatgtg cagcacagac cttggaaaaa aggggtaaag ctaaacccaa agtgaacgtg     300
aagccatctg tggttaaagt tgtgtcatcc cccaaattgg ccccaaaacg taaggcagtg     360
gagatgcacg ctgctgtcat tgccgctgtg aagccactca gctccagcag tgtcctacag     420
gaacccccag ccaaaaaggc agctgtggct gttgtcccgc ttgtctctga ggacaaatca     480
gtcactgtgc ctgaagcaga aaatcctaga gacagtcttg tgctgcctcc aacccagtcc     540
tcttcagatt cctcacccc ggaggtgtct ggcccttcct catcccaaat gagcatgaaa     600
actcgccgac tcagctctgc ctcaacaagg aaagccccca ctctctgtgg aggatgattt     660
tgagaaacta atatgggaga tttcaaggag gcaaaattgg naactganat tgacctggat     720
tctgggaaaa gatgaagatg acccttccgg cttngngcct atcaannaaa ngattgntan     780
cctgaaaggg tggtaattga nggacncctt naaaaaaaaa atccnccaaa aaaactnggg     840
ccttaanttc naccaaatgg taacaatttn acctgagaat gnttaatttc ctttaggcc     899
```

<210> 251
<211> 755
<212> DNA
<213> Homo Sapiens

<400> 251

```
cctacatcag ttttatttaa aacactaaca agtatttctc tttctgtaag ggcaaatggt      60
tcaaataatg cggaacacga aacattgana nagacaagtg ctttaaatat gaaacaaaat     120
tattttttaa aaaagcaaaa gaataaagaa tatatacaaa agggacctgg aatctgtaag     180
gtgattccaa aaacgaaata agtagaaaat ccatggtgaa acctgaacat tctacctctg     240
ctttggagaa gggctatcat acaacattca gtcagctgaa gatggattgg tagaggtgtg     300
tctatacata aacttcagtc attttgctt gtgcagaatc atcccaatct tcccaagact     360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt     420
caactcttga tgagccgctt acaacagcag ttccttagga gccaacatga caggtgggtc     480
agatttccct atgagaaaca aaactggcca cctacagcaa aatatcaaaa tgggtaagtc     540
cttccttcct cttcctcctg attatataca acatatctcc tttcaaagac tattatttcc     600
atcatgctta ntccttcaca aatctaaacc ttgaggtgat atgaaggaaa ccaacatcan     660
gaaaagaaaa ctcaattcag aaatgaagaa aacgggcang tatacaattc anccccagag     720
caacccaata atccctgggc aaaagttcaa ttcaa                                 755
```

<210> 252
<211> 753
<212> DNA
<213> Homo Sapiens

<400> 252

```
cctacatcag ttttatttaa aacactaaca agtatttctc tttctgtaag ggcaaatggt      60
tcaaataatg cggaacacga aacattgact aatacaagtg ctttaaatat gaaacaaaat     120
tattttttaa aaaagcaaaa gaataaagaa tatatacaaa agggacctgg aatctgtaag     180
gtgattccaa aaacgaaata agtagaaaat ccatggtgaa acctgaacat tctacctctg     240
ctttggagaa gggctatcat acaacattca gtcagctgaa gatggattgg tagaggtgtg     300
tctatacata aacttcagtc attttgctt gtgcagaatc atcccaatct tcccaagact     360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt     420
caactcttga tgagccgctt acaacagcag ttccttagga gccaacatga caggtgggtc     480
agatttccct atgagaaaca aaactggcca cctacagcaa aatatcaaaa tgggtaagtc     540
cttccttcct cttcctcctg gattatatac aacatatctc ctttcaaagac tattatttcc     600
atcatgcnta atccttcaca aatctaaaac cttgagggtg atatgaaagg aaaccaacat     660
canagaaaag aaaactcaat tcaagaaaat taagaaaacc tggcaaggta tacaaataca     720
```

cccccaggag catcccaaat aatccctggg aaa   753

<210> 253
<211> 793
<212> DNA
<213> Homo Sapiens

<400> 253
gactttccta catcagtttt atttaaaaca ctaacaagta tttcnctttc ngtaagggca   60
aatggttcaa ataatgcgga acacgaaaca ttgactaata caagtgcttt aaatatgaaa   120
caaaattatt ttttaaaaaa gcaaaagaat aaagaatata tacaaaaggg acctggaatc   180
tgtaaggnga ttccaaaaac gaaataagta gaaaatccat ggtgaaacct gaanattcta   240
cctctgcttt gganaagggc tatcatacaa cattcagtca gctgaanatg gattggtaaa   300
ggtgtgtcta tacataaact tcagtcattt ttgcttgtgc anaatcatcc caatcttccc   360
aagactgaat gggcagtcct gtggctttct tcctttttcca nattcccaac aaggctacgt   420
gaagttcaac tcttgatgag ccgcttacaa cagcagttcc ttaggagcca acatgacagg   480
tgggtcagat ttccctatga gaaacaaaac tggccaccta cagcaaaata tcaaaatggg   540
taagtccttc cttcctcttc cncctgatta tatacaanat atctcctttc aagactatta   600
tttccatcat gcttattcct tcacanatct aaaccttgan gtgatatgaa nggnaaccaa   660
catcangaaa agaaaactca attcagnaat gaangaaaac tgggaggtat ttaatanacc   720
cccangnnga atccaaatac cctggnaana gttcaattca antgtacngc naaagnccat   780
aantaantat tgg   793

<210> 254
<211> 625
<212> DNA
<213> Homo Sapiens

<400> 254
cctacatcag ttttatttaa aacactaaca agtatttctc tttctgtaag ggcaaatggt   60
tcaaataatg cggaacacga acattgact aatacaagtg ctttaaatat gaaacaaaat   120
tattttttaa aaaagcaaaa gaataaagaa tatatacaaa agggacctgg aatctgtaag   180
gtgattccaa aaacgaaata agtagaaaat ccatggtgaa acctgaacat tctacctctg   240
ctttggagaa gggctatcat acaacattca gtcagctgaa gatggattgg tanaggtgtg   300
tctatacata aacttcagtc atttttgctt gtgcagaatc atcccaatct tcccaagact   360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt   420
caactcttga tgagccgctt acaacancaa gttccttang agccaacatg acaggtgggg   480
tcangatttc cctatgagaa acaanactgg ccacctacag caaaaatatn aaaatggggt   540
aagtccttcc ttcctcttcc tcctgaatta tatncaacat ntctcctttt caagacnatt   600
anttccatca gggcttaatc cttca   625

<210> 255
<211> 907
<212> DNA
<213> Homo Sapiens

<400> 255
gccaacagca gcggagaaac gtttctcttt cctctcagtt tgcgcacacc atggcggccc   60
ctgcccagca gactactcag cctggcggcg ggaagcgcaa aggcaaggct cagtatgtgc   120
tggccaagcg cgctcggcgc tgcgacgctg cggggccccg tcagctagag cccgggctac   180
agggcatcct catcacctgc aatatgaacg agcgcaagtg cgtggaggag gcctacagcc   240
tcctcaacga atacggcgac gacatgtatg gccagaaaa gtttacagac aaggatcagc   300
agccctctgg aagtgaggga gaggatgatg atgcggaggc tgccttgaag aaagaagttg   360
gtgacattaa ggcatctaca gagatgaggt taagaagatt ccagtcagtg aaagtggag   420
caaataacgt tgtcttcatc aggacacttg ggatagagcc tgagaaattg gtgcatcata   480

-167-

```
ttctccagga tatgtacaaa accaagaaaa agaagactcg agttattttg cgaatgttac    540
ccatctcagg cacatgcaag gctttttag aagatatgaa aaaatatgca gaaacatttt     600
tggaaccctg gtttaaagct ccaaacaaag ggacatttca gattgtgtac aaaatctcga    660
nataacagtc atgtnaatag agaagaagtt atcaagagaa tttgcangga atagtgtgca    720
acctcaattc agnaaataaa gtgggtntca acaatccaca agtacacaat ngtaatanaa    780
atcatcaaan ctgtcngttc cctganngtt tgttaaagga ttacaaggtt ggtttannaa    840
aattcaatcn ccaagaaggt tggtnaanaa ncccctaang ggntccttca naggcnttaa    900
ctcaaag                                                              907
```

```
<210> 256
<211> 794
<212> DNA
<213> Homo Sapiens

<400> 256
aataacgcaa aatgacttat ggagacaacc actgatgggg caccaggagt gtagatacca     60
gacctctggt tatcagatat gatgtcacaa aanagagata ttggcctttg ttctggcagg    120
ctcctagcaa tagaaaaagt tttctttgaa tttcatcatt tacaaatctt acaaatgcta    180
cagcatgaca aatattagtg aaacctgttg actcatcatc ctggatagag aagctgctac    240
ttttcagtta atgacacaaa acctttttg catcatatga catatcatca gtaaatcaac      300
ttattgagaa taaagtctct tcaactttgt actgcatctt gccccagcat tttaatgtta    360
ttagattctc accaaccatg catattttcc tttcctgaga taagttctgc tactaaataa    420
tttgcttctt aaaccttttg actaaaggtg atttctgaac aaaagcctta ctgtttttga    480
tagtccaaaa gccatttgaa aataatgaat atcctttctt gtcaagtggc tgtgatttat    540
tgttacaatt gctaagtttt gtaagttgca tgtcacagac aatgcacaat gggacaagan    600
aaccttggac ctgagtccac ataaataccc cttgagaagt tancttttcc ttaattaaga    660
caagaatttc ctttggtgtc cccttggttg cactaagtat acttgaaagt ntnctccagn    720
angactggaa gttcttcaat caaccaanct ttttcaagaa aatgtccngt agtttcaang    780
gcctaaaaat gggt                                                      794
```

```
<210> 257
<211> 885
<212> DNA
<213> Homo Sapiens

<400> 257
gacgccaaca gcagcggaga aacgtttctc tttcctctca gtttgcgcac accatggcgg     60
cccctgccca gcagactact cagcctggcg gcgggaagcg caaaggcaag gctcagtatg    120
tgctggccaa gcgcgctcgg cgctgcgacg ctggcgggcc ccgtcagcta gagcccgggc    180
tacagggcat cctcatcacc tgcaatatga cgagcgcaa gtgcgtggag gaggcctaca     240
gcctcctcaa cgaatacggc gacgacatgt atgggccaga aaagtttaca gacaaggatc    300
agcagccctc tggaagtgag ggagaggatg atgatgcgga ggctgccttg aagaagaag     360
ttggtgacat taaggcatct acagagatga ggttaagaag attccagtca gtggaaagtg    420
gagcaaataa cgttgtcttc atcaggacac ttgggataga gcctgagaaa ttggtgcatc    480
atattctcca ggatatgtac aaaaccaaga aaagaagac tcgagttatt ttgcgaatgt     540
tacccatctc aggcacatgc aaggcttttt tagaagatat gaaaaaatat gcagaaacat    600
ttttggaacc ctgggtttaa agctccaaac aaagggacat ttcagattgt gtacaaatct    660
cgaaataaca gtcatgtgaa tngagaaaga agttatcaga gaaattggca aggaatagtt    720
gtgcaccctc aattcagaaa attaaaggtg ggntctcaac caatccacag ttcacagntg    780
gtagttagaa atcaatcaaa acctgtcngt ttgcccgaan ttgnttgtta aaagaattca    840
angttggttt tanaaanaat naaatcccca aagaaggtgg gtgaa                    885
```

```
<210> 258
<211> 798
<212> DNA
```

<213> Homo Sapiens
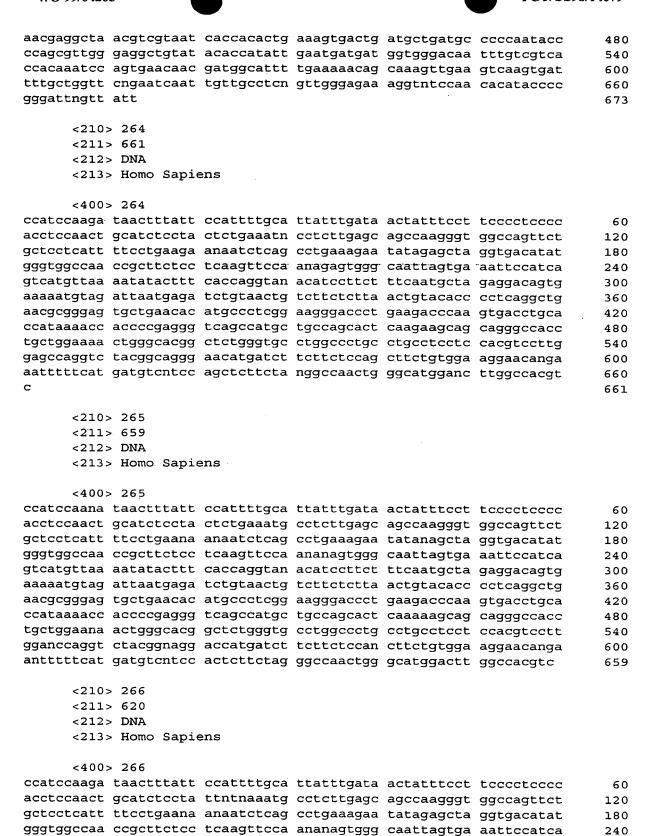
<400> 258

```
aacatttttg cataaatggg tctttgatac aggtaaccag ttttgtaaca ttattcagaa      60
cttcactgta tcttcaagtt tttgatatca gnagcactgt ggagaaagca gtgtgctata     120
atgtcaacat caggatttct ttttttttt ttaataacgc aaaatgactt atggagacaa     180
ccactgatgg ggcaccagga gtgtagatac cagacctctg gttatcagat atgatgtcac     240
aacattatat attggccttt gttctggcag gctcctagca atagaaaaag ttttctttga     300
atttcatcat ttacaaatct tacaaatgct acagcatgac aaatattagt gaaacctgtt     360
gactcatcat cctggataga gaagctgcta cttttcagtt aatgacacaa aacctttttt     420
gcatcatatg acatatcatc aagtaaatca acttattgag aataaagtct cttcaacttt     480
gtactgcatc ttgccccagc attttaatgt tattaagatt ctcaccaacc atgcatattt     540
tcctttcctg agataagttc tgctactaaa taatttgctt cttaaacctt ttgactaaag     600
gtgatttctg aacaaaagcc ttactgtttt tgataagtcc caaaaagcca tttgaaaaat     660
aatgaatatc ctttcntgtc aagtggctgt gaatttaatg ttacaattgc caagttttgt     720
aagttgcatn gtcacangac aatgcacaat ggggacaagg agaaccttgg gcctgagtcc     780
acaataanta cccctga                                                     798
```

<210> 259
<211> 831
<212> DNA
<213> Homo Sapiens

<400> 259

```
gccggcggta gacgaggacg ccaacagcag cggagaaacg tttctctttc ctctcagttt      60
gcgcacacca tggcggcccc tgcccagcag actactcagc ctggcggcgg gaagcgcaaa     120
ggcaaggctc agtatgtgct ggccaagcgc gctcggcgct gcgacgctgg cgggccccgt     180
cagctagagc ccgggctaca gggcatcctc atcacctgca atatgaacga gcgcaagtgc     240
gtggaggagg cctacagcct cctcaacgaa tacggcgacg acatgtatgg gccagaaaag     300
tttacagaca aggatcagca gccctctgga agtgagggag aggatgatga tgcggaggct     360
gccttgaaga aagaagttgg tgacattaag gcatctacag agatgaggtt aagaagattc     420
cagtcagtgg aaagtggagc aaataacgtt gtcttcatca ggacacttgg gatanagcct     480
gagaaattgg tgcatcatat tctccaggat atgtacaaaa ccaagaaaaa gaagactcga     540
gttattttgc gaatgttacc catctcaggc acatgcaang ctttttttaga agatatgaaa     600
aaatatgcan aaacatttt ggaancctgg tttaaagctc caaacaaagg gacatttcag     660
attgtgttca atctcgaaa ataacagtca tgttgaatag aagaagaagt tatcagagaa     720
nttggcaagg aataatgntg caacctcaat tcagaaaata aaagtggatt tcaccaattc     780
cacagtncac aantggtagt agaaatcatc aaaagctntc tgtttgcccg a             831
```

<210> 260
<211> 772
<212> DNA
<213> Homo Sapiens

<400> 260

```
aataacgcaa aatgacttat ggagacaacc actgatgggg caccaggagt gtagatacca      60
gacctctggt tatcagatat gatgtcacaa cattatatat tggcctttgt tctggcaggc     120
tcctagcaat agaaaaagtt ttctttgaat ttcatcattt acaaatctta caaatgctac     180
agcatgacaa atattagtga aacctgttga ctcatcatcc tggatagaga agctgctact     240
tttcagttaa tgacacaaaa cctttttgc atcatatgac atatcatcag taaatcaact     300
tattgagaat aaagtctctt caactttgta ctgcatcttg ccccagcatt ttaatgttat     360
tagattctca ccaaccatgc atattttcct ttcctgagat aagttctgct actaaataat     420
ttgcttctta aaccttttga ctaaaggtga tttctgaaca aaagccttac tgtttttgat     480
agtccaaaag ccatttgaaa ataatgaata tcctttcttg tcaagtggcn gtgatttatt     540
gttacaattg ctagttttgt nagttgcatg tcacagacaa tgcacaatgg gacangagag     600
```
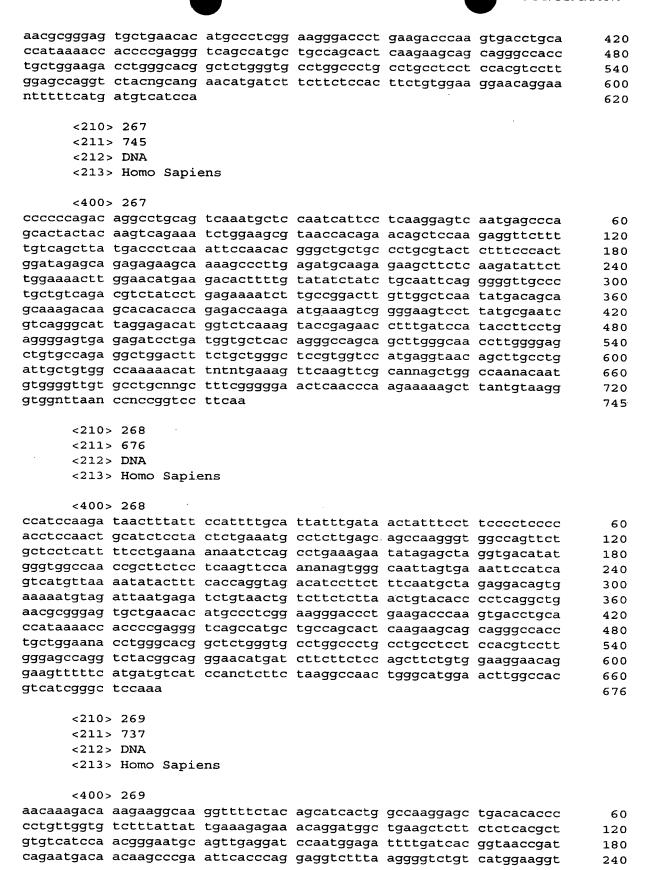
```
cctgggactg agtccacata atacccntga gaagtannct ttctttatta agacagaant        660
tctttgtgtc ccttgttgca caagtntact gaagtntcnc aagaaggact ggangtcntc        720
ataancaacc ttttagaaat gtccgtattc ctaaggccca aaaangggtc cc                772
```

<210> 261
<211> 753
<212> DNA
<213> Homo Sapiens

<400> 261
```
agacgaggac gccaacagca gcggagaaac gtttctcttt cctctcagtt tgcgcacacc         60
atggcggccc ctgcccagca gactactcag cctggcggcg ggaagcgcaa aggcaaggct        120
cagtatgtgc tggccaagcg cgctcggcgc tgcgacgctg gcgggccccg tcagctagag        180
cccgggctac agggcatcct catcacctgc aatatgaacg agcgcaagtg cgtggaggag        240
gcctacagcc tcctcaacga atacggcgac gacatgtatg ggccagaaaa gtttacagac        300
aaggatcagc agccctctgg aagtgaggga gaggatgatg atgcggaggc tgccttgaag        360
aaagaagttg gtgacattaa ggcatctaca gagatgaggt taagaagatt ccagtcagtg        420
gaaagtggag caaataacgt tgtcttcatc aggacacttg ggatagagcc tgagaaattg        480
gtgcatcata ttctccagga tatgtacaaa accaagaaaa agaagactcg agttattttg        540
cgaatgttac ccatctcagg cacatgcaag gctttttttag aaagatatga anaaatatgc        600
anaaaacatt tttggaaccc tgggtttaaa gctccaaaca aagggacatt tcagaattgt        660
ggtacaaatc tcgaaatanc agtcatgtta antagagaan naagtttttc agaagaattt        720
ggcaaggaat nagtnntgca accctcaatt tca                                     753
```

<210> 262
<211> 659
<212> DNA
<213> Homo Sapiens

<400> 262
```
aataacgcaa aatgacttat ggagacaacc actgatgggg caccaggagt gtagatacca         60
gacctctggt tatcagatat gatgtcacaa cattatatat tggcctttgt tctggcaggc        120
tcctagcaat agaaaaagtt ttctttgaat ttcatcattt acaaatctta caaatgctac        180
agcatgacaa atattagtga aacctgttga ctcatcatcc tggatagaga agctgctact        240
tttcagttaa tgacacaaaa cctttttttgc atcatatgac atatcatcag taaatcaact        300
tattgagaat aaagtctctt caactttgta ctgcatcttg ccccagcatt ttaatgttat        360
tagattctca ccangccatg catattttcc tttcctgaga taagttctgc tactaaagaa        420
tttgcttctt aaaccttttg actaaaggtg atttctgaac aaaagcctta ctgtttttga        480
nnagtccana agccatttga aaaataatga atatcctttc cttgtcaagt ggcngtgatt        540
tantgttaca atttgcnagg ttttgtaagt tgcatggtca cagnanaatg cacantnggg        600
acanngagan cntgggncng aagtccacat tatanccctt tgagnaangt agctttccc         659
```

<210> 263
<211> 673
<212> DNA
<213> Homo Sapiens

<400> 263
```
gagattttga tcacggtaac cgatcagaat gacaacaagc ccgaattcac ccaggaggtc         60
tttaaggggt ctgtcatgga aggtgctctt ccaggaacct ctgtgatgga ggtcacagcc        120
acagacgcgg acgatgatgt gaacacctac aatgccgcca tcgcttacac catcctcagc        180
caagatcctg agctccctga caaaaatatg ttcaccatta acaggaacac aggagtcatc        240
agtgtggtca ccactgggct ggaccgagag agtttcccta cgtataccct ggtggttcaa        300
gctgctgacc ttcaaggtga ggggttaagc acaacagcaa cagctgtgat cacagtcact        360
gacaccaacg ataatcctcc gatcttcaat cccaccacgt acaagggtca ggtgcctgaa        420
```

```
aacgaggcta acgtcgtaat caccacactg aaagtgactg atgctgatgc ccccaatacc      480
ccagcgttgg gaggctgtat acaccatatt gaatgatgat ggtgggacaa tttgtcgtca      540
ccacaaatcc agtgaacaac gatggcattt tgaaaaacag caaagttgaa gtcaagtgat      600
tttgctggtt cngaatcaat tgttgcctcn gttgggagaa aggtntccaa cacataccccc     660
gggattngtt att                                                         673
```

```
        <210> 264
        <211> 661
        <212> DNA
        <213> Homo Sapiens

        <400> 264
```

```
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tccccctcccc      60
acctccaact gcatctccta ctctgaaatn cctcttgagc agccaagggt ggccagttct      120
gctcctcatt ttcctgaaga anaatctcag cctgaaagaa tatagagcta ggtgacatat      180
gggtggccaa ccgcttctcc tcaagttcca anagagtggg caattagtga aattccatca      240
gtcatgttaa aatatacttt caccaggtan acatccttct ttcaatgcta gaggacagtg      300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg      360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca      420
ccataaaacc accccgaggg tcagccatgc tgccagcact caagaagcag cagggccacc      480
tgctggaaaa ctgggcacgg ctctgggtgc ctggccctgc ctgcctcctc cacgtccttg      540
gagccaggtc tacggcaggg aacatgatct tcttctccag cttctgtgga aggaacanga      600
aatttttcat gatgtcntcc agctcttcta nggccaactg ggcatgganc ttggccacgt      660
c                                                                       661
```

```
        <210> 265
        <211> 659
        <212> DNA
        <213> Homo Sapiens

        <400> 265
```

```
ccatccaana taactttatt ccattttgca ttatttgata actatttcct tccccctcccc      60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct      120
gctcctcatt ttcctgaana anaatctcag cctgaaagaa tatanagcta ggtgacatat      180
gggtggccaa ccgcttctcc tcaagttcca ananagtggg caattagtga aattccatca      240
gtcatgttaa aatatacttt caccaggtan acatccttct ttcaatgcta gaggacagtg      300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg      360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca      420
ccataaaacc accccgaggg tcagccatgc tgccagcact caaaaagcag cagggccacc      480
tgctggaana actgggcacg gctctgggtg cctggccctg cctgcctcct ccacgtcctt      540
gganccaggt ctacggnagg accatgatct tcttctccan cttctgtgga aggaacanga      600
anttttttcat gatgtcntcc actcttctag ggccaactgg gcatggactt ggccacgtc      659
```

```
        <210> 266
        <211> 620
        <212> DNA
        <213> Homo Sapiens

        <400> 266
```

```
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tccccctcccc      60
acctccaact gcatctccta ttntnaaatg cctcttgagc agccaagggt ggccagttct      120
gctcctcatt ttcctgaana anaatctcag cctgaaagaa tatagagcta ggtgacatat      180
gggtggccaa ccgcttctcc tcaagttcca ananagtggg caattagtga aattccatca      240
gtcatgttaa aatatacttt caccaggtan acatccttct ttcaatgcta gaggacagtg      300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg      360
```

```
aacgcgggag  tgctgaacac  atgccctcgg  aagggaccct  gaagacccaa  gtgacctgca        420
ccataaaacc  accccgaggg  tcagccatgc  tgccagcact  caagaagcag  cagggccacc        480
tgctggaaga  cctgggcacg  gctctgggtg  cctggccctg  cctgcctcct  ccacgtcctt        540
ggagccaggt  ctacngcang  aacatgatct  tcttctccac  ttctgtggaa  ggaacaggaa        600
nttttcatg   atgtcatcca                                                        620
```

```
        <210>  267
        <211>  745
        <212>  DNA
        <213>  Homo Sapiens

        <400>  267
cccccagac   aggcctgcag  tcaaatgctc  caatcattcc  tcaaggagtc  aatgagccca         60
gcactactac  aagtcagaaa  tctggaagcg  taaccacaga  acagctccaa  gaggttcttt        120
tgtcagctta  tgaccctcaa  attccaacac  gggctgctgc  cctgcgtact  ctttcccact        180
ggatagagca  gagagaagca  aaagcccttg  agatgcaaga  gaagcttctc  aagatattct        240
tggaaaactt  ggaacatgaa  gacacttttg  tatatctatc  tgcaattcag  ggggttgccc        300
tgctgtcaga  cgtctatcct  gagaaatct   tgccggactt  gttggctcaa  tatgacagca        360
gcaaagacaa  gcacacacca  gagaccaaga  atgaaagtcg  gggaagtcct  tatgcgaatc        420
gtcagggcat  taggagacat  ggtctcaaag  taccgagaac  ctttgatcca  taccttcctg        480
aggggagtga  gagatcctga  tggtgctcac  agggccagca  gcttgggcaa  ccttggggag        540
ctgtgccaga  ggctggactt  tctgctgggc  tccgtggtcc  atgaggtaac  agcttgcctg        600
attgctgtgg  ccaaaaacat  tntntgaaag  ttcaagttcg  cannagctgg  ccaanacaat        660
gtggggttgt  gcctgcnngc  tttcgggggga actcaaccca  agaaaaagct  tantgtaagg        720
gtggnttaan  ccnccggtcc  ttcaa                                                 745
```

```
        <210>  268
        <211>  676
        <212>  DNA
        <213>  Homo Sapiens

        <400>  268
ccatccaaga  taactttatt  ccattttgca  ttatttgata  actatttcct  tcccctcccc         60
acctccaact  gcatctccta  ctctgaaatg  cctcttgagc  agccaagggt  ggccagttct        120
gctcctcatt  ttcctgaana  anaatctcag  cctgaaagaa  tatagagcta  ggtgacatat        180
gggtggccaa  ccgcttctcc  tcaagttcca  ananagtggg  caattagtga  aattccatca        240
gtcatgttaa  aatatacttt  caccaggtag  acatccttct  ttcaatgcta  gaggacagtg        300
aaaaatgtag  attaatgaga  tctgtaactg  tcttctctta  actgtacacc  cctcaggctg        360
aacgcgggag  tgctgaacac  atgccctcgg  aagggaccct  gaagacccaa  gtgacctgca        420
ccataaaacc  accccgaggg  tcagccatgc  tgccagcact  caagaagcag  cagggccacc        480
tgctggaana  cctgggcacg  gctctgggtg  cctggccctg  cctgcctcct  ccacgtcctt        540
gggagccagg  tctacggcag  ggaacatgat  cttcttctcc  agcttctgtg  gaaggaacag        600
gaagtttttc  atgatgtcat  ccanctcttc  taaggccaac  tgggcatgga  acttggccac        660
gtcatcgggc  tccaaa                                                            676
```

```
        <210>  269
        <211>  737
        <212>  DNA
        <213>  Homo Sapiens

        <400>  269
aacaaagaca  aagaaggcaa  ggttttctac  agcatcactg  gccaaggagc  tgacacaccc         60
cctgttggtg  tctttattat  tgaaagagaa  acaggatggc  tgaagctctt  ctctcacgct        120
gtgtcatcca  acgggaatgc  agttgaggat  ccaatggaga  ttttgatcac  ggtaaccgat        180
cagaatgaca  acaagcccga  attcacccag  gaggtcttta  ggggtctgt   catggaaggt        240
```

-172-

```
gctcttccag gaacctctgt gatggaggtc acagccacag acgcggacga tgatgtgaac    300
acctacaatg ccgccatcgc ttacaccatc ctcagccaag atcctgagct ccctgacaaa    360
aatatgttca ccattaacag gaacacagga gtcatcagtg tggtcaccac tgggctggac    420
cgagagagtt tccctacgta taccctggtg gttcaagctg ctgaccttca aggtgagggg    480
ttaagcacaa cagcaacagc tgtgatcaca gtcactgaca ccaacgataa tcctccgatc    540
ttcaatccca ccacgtacaa gggtcangtg cctganaaag aaggctaacg tcgttatcac    600
caacactgaa aagtgactga tgcctgatgc cccccaatta ncccanccgt gggaagctgt    660
ntacaccata tngaaatgat gatgggtggg cnaatttgtn cgttcaccaa caaatnccan    720
gtggaacaac caatggg                                                   737
```

        <210> 270
        <211> 726
        <212> DNA
        <213> Homo Sapiens

        <400> 270
```
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tcccctcccc     60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct    120
gctcctcatt ttcctgaana anaatctcag cctgaaagaa tatanagcta ggtgacatat    180
gggtggccaa ccgcttctcc tcaagttcca ananagtggg caattagtga aattccatca    240
gtcatgttaa aatatacttt caccaggtan acatccttct ttcaatgcta gaggacagtg    300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg    360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca    420
ccataaaacc accccgaggg tcngccatgc tgccagcact caanaagcag cagggccacc    480
tgctggaana cctgggcacg gctctgggtg cctggccctg cctgcctcct ccacgtcctt    540
ggagccaggt ctacggcagg aacatgatct tcttctccac ttctgtggaa ggaacangaa    600
atttttcatg atgtctccan ctcttctagg gccactgggc atggancttg ggcncntcat    660
cgggctccaa anacactact gcttcancag gtgggtanaa atccttgaag angggctcac    720
acctcc                                                               726
```

        <210> 271
        <211> 814
        <212> DNA
        <213> Homo Sapiens

        <400> 271
```
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tcccctcccc     60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct    120
gctcctcatt ttcctgaaga agaatctcag cctgaaagaa tatagagcta ggtgacatat    180
gggtggccaa ccgcttctcc tcaagttcca agagagtggg caattagtga aattccatca    240
gtcatgttaa aatatacttt caccaggtag acatccttct ttcaatgcta gaggacagtg    300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg    360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca    420
ccataaaacc accccgaggg tcagccatgc tgccagcact caagaggcag cagggccacc    480
tgctggaaga cctgggcacg gctctgggtg cctggccctg cctgcctcct ccacgtcctt    540
ggagccaggt ctacggcagg accatgatct tcttctccag cttctgtggg agggaacagg    600
gaagtttttc aatgatgtca tccagctctt cctanggcca actgggcaag ggagcttggg    660
caacgtcatc ggggctccag acaaaactac gtgcttcanc aanggtggta aaanatcctt    720
gaaggacggg ggctcaacaa cccaagtanc ctttccnggg ctgaatcccc ngaagcaagc    780
aagnacaaac cacatgtttt gggaagctcc ggcg                                814
```

        <210> 272
        <211> 862
        <212> DNA
        <213> Homo Sapiens

<400> 272

```
gtacactgaa cagaaaagat ctggaaggga aaatagaaga gcagcaacaa accagtcatg    60
aaagacccac tgatgtagct catagccacc ttgaacaaca gcagagccat gagacagccc   120
cccagacagg cctgcagtca aatgctccaa tcattcctca aggagtcaat gagcccagca   180
ctactacaag tcagaaatct ggaagcgtaa ccacagaaca gctccaagag gttctttgt    240
cagcttatga ccctcaaatt ccaacacggg ctgctgccct gcgtactctt tcccactgga   300
tagagcagag agaagcaaaa gcccttgaga tgcaagagaa gcttctcaag atattcttgg   360
aaaacttgga acatgaagac acttttgtat atctatctgc aattcagggg gttgccctgc   420
tgtcagacgt ctatcctgag aaaatcttgc cggacttgtt ggctcaatat gacagcagca   480
aagacaagca cacaccagag accaagaatg aaagtcgggg aagtccttat gcgaatcgtc   540
agggcattag ggagacatgg tctcaaagta ccgagaacct ttgattcata ccttcctgan   600
gggagtgaga gattctggat ggtgctcaca agggcagcaa cttgggcaan cttgggggaa   660
ctggtgccag aggctggact ttcngctggg gctccgtggg ccaatggagg gtacaanctt   720
gccctgaatt gctgtgggcc aaaaacaaga tnggtgaaag tttaaagtta cgcaaaactg   780
ccaatacaat gttgggttgt tgccnggctg gnnttccggg ggaatcaagc ccaggaaaag   840
cctaccggan ggggccttaa ac                                           862
```

<210> 273
<211> 677
<212> DNA
<213> Homo Sapiens

<400> 273

```
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tcccctcccc    60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct   120
gctcctcatt ttcctgaaga agaatctcag cctgaaagaa tatagagcta ggtgacatat   180
gggtggccaa ccgcttctcc tcaagttcca agagagtggg caattagtga aattccatca   240
gtcatgttaa aatatacttt caccaggtan acatccttct ttcaatgcta gaggacagtg   300
aaaaatgtag attaatgaga tctgtaactg tcttcnctta actgtacacc cctcaggctg   360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca   420
ccataaaacc accccgaggg tcagccatgc tgccaagcac tcaagaggca gcagggccac   480
ctgctggaan acctgggcac ggntctgggt gcctgggccc tgcctgcctc ctccangtcc   540
ttggggccaa gtctaaggga agggaccaat gatcttcttc cccaaacttc tgtggagggg   600
aaaaaaggaa ntttttcaag gnggtcatcc nangctcctc caaggggnca aaatggggc   660
antggaacct tgggcaa                                                 677
```

<210> 274
<211> 863
<212> DNA
<213> Homo Sapiens

<400> 274

```
gaaaacagca aagttgaagt caagtgattt tgctgttctg aagcagttgt tgcctctgtt    60
ggagaaggta tccaacacat accctgatcc ggtcatccaa gaactcgctg ttgatctccg   120
catcaccatc tctacccatg gagcctttgc cactgaggcc gtcagcatgg ctgcccaaag   180
tacactgaac agaaaagatc tggaagggaa aatagaagag cagcaacaa ccagtcatga   240
aagacccact gatgtagctc atagccacct tgaacaacag cagagccatg agacagcccc   300
ccagacaggc ctgcagtcaa atgctccaat cattcctcaa ggagtcaatg agcccagcac   360
tactacaagt cagaaatctg gaagcgtaac cacagaacag ctccaagagg ttctttgtc    420
agcttatgac cctcaaattc caacacgggc tgctgccctg cgtactcttt cccactggat   480
agagcagaga gaagcaaaag cccttgagat gcaagagaag cttctcaaga tattcttgga   540
aaacttggaa catgaagaca cttttgtata tctatctgca attcaggggg ttgccctgct   600
gtcagacgtc tatcctgaga aaatcttgcc ggacttgttg gctcaatatg acagcagcaa   660
agacaagcac acaccagaga ccaagaatg aaagtcgggg aagtccttat gccaatcgtc   720
anggcattag ggagacatgg tctcaaagta accgagaacc tttgattcat accttcctga   780
```

```
agggggaatta gagattctga atggtgctca cagggccaac aaccttggcn aaccttgggg      840
aacctgtgcc anaaggctng gac                                               863
```

```
        <210> 275
        <211> 821
        <212> DNA
        <213> Homo Sapiens

        <400> 275
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tcccctcccc       60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct      120
gctcctcatt ttcctgaaga agaatctcag cctgaaagaa tatagagcta ggtgacatat      180
gggtggccaa ccgcttctcc tcaagttcca agagagtggg caattagtga aattccatca      240
gtcatgttaa aatatacttt caccaggtag acatccttct ttcaatgcta gaggacagtg      300
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg      360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca      420
ccataaaacc accccgaggg tcagccatgc tgccagcact caagaggcag cagggccacc      480
tgctggaaga cctgggcacg gctctgggtg cctggccctg cctgcctcct ccacgtcctt      540
ggagccaggt ctacggcagg accatgatct tcttctccaa gcttctgtgg agggaacagg      600
aagttttca tgatgtcatc caagctcttc tanggccaac tgggcatgga gcttgggcac      660
gtcatcgggc tccagacaca ctacgtgctt cancaaggtg gtaaaagatt cttganggac      720
ggngctcanc acctcagtaa ncttctggc tgagtccccc gaaagcaaca gcacaancca      780
catgtntngg aaaccctgcg ttacttngaa cttcaacaac c                         821
```

```
        <210> 276
        <211> 722
        <212> DNA
        <213> Homo Sapiens

        <400> 276
aacagctgtg atcacagtca ctgacaccaa cgataatcct ccgatcttca tcccaccac       60
gtacaagggt caggtgcctg agaacgaggc taacgtcgta atcaccacac tgaaagtgac      120
tgatgctgat gcccccaata ccccagcgtg ggaggctgta tacaccatat tgaatgatga      180
tggtggacaa tttgtcgtca ccacaaatcc agtgaacaac gatggcattt tgaaaacagc      240
aaagttgaag tcaagtgatt ttgctgttct gaagcagttg ttgcctctgt tggagaaggt      300
atccaacaca taccctgatc cggtcatcca agaactcgct gttgatctcc gcatcaccat      360
ctctacccat ggagcctttg ccactgaggc cgtcagcatg gctgcccaaa gtacactgaa      420
cagaaaagat ctggaaggga aaatagaaga gcagcaacaa accagtcatg aaagacccac      480
tgatgtagct catagccacc ttgaacaaca gcagagccat gaagacagcc ccccagacag      540
gcctgcagtc aaatgctcca atcattcctc aaggagtcaa tgagcccagc actactacaa      600
gtcagaaatc tggaagcgtt accacagaac agctccaaga ggttcnttg tcagctttat        660
gaacctcaaa ttccaacacg gggctggtgc ctgcgttact cnttcccact gggntagaag      720
ca                                                                     722
```

```
        <210> 277
        <211> 805
        <212> DNA
        <213> Homo Sapiens

        <400> 277
ccatccaaga taactttatt ccattttgca ttatttgata actatttcct tcccctcccc       60
acctccaact gcatctccta ctctgaaatg cctcttgagc agccaagggt ggccagttct      120
gctcctcatt ttcctgaaga agaatctcag cctgaaagaa tatagagcta ggtgacatat      180
gggtggccaa ccgcttctcc tcaagttcca agagagtggg caattagtga aattccatca      240
gtcatgttaa aatatacttt caccaggtag acatccttct ttcaatgcta gaggacagtg      300
```

```
aaaaatgtag attaatgaga tctgtaactg tcttctctta actgtacacc cctcaggctg    360
aacgcgggag tgctgaacac atgccctcgg aagggaccct gaagacccaa gtgacctgca    420
ccataaaacc accccgaggg tcagccatgc tgccagcact caagaggcag cagggccacc    480
tgctgggaag acctgggcac ggctctgggt gcctgggccc tgcctgcctc ctccacgtcc    540
ttggagccaa ggtctacggc aggaccatga tcttcttctc cagcttctgt ggagggaaca    600
ngaagttttt caagatgtca tccaactcct ccaagggcca actgggcat gggagccttg    660
gcacgtcatn cgggctccag acacactacg gtgcttcaac aagggnggta nagattcttg    720
anggacgggg ctcaaacaat gaacctcant tacctttcng gctgagtccc cnaaagcaac    780
aagtacaaac cacatgtttt gggaa                                           805
```

```
        <210> 278
        <211> 1358
        <212> DNA
        <213> Homo Sapiens

        <400> 278
agaactcaga gctgctcttc ctctgtggcc agttggggac cagcatcatg aagtggatgg     60
tggtggtctt ggtctgcctc cagctcttgg aggcagcagt ggtcaaagtg cccctgaaga    120
aatttaagtc tatccgtgag accatgaagg agaagggctt gctgggggag ttcctgagga    180
cccacaagta tgatcctgct tggaagtacc gctttggtga cctcagcgtg acctacgagc    240
ccatggccta catggatgct gcctactttg gtgagatcag catcgggact ccaccccaga    300
acttcctggt cctttttgac accggctcct ccaacttgtg ggtgccctct gtctactgcc    360
agagccaggc ctgcaccagt cactcccgct tcaaccccag cgagtcgtcc acctactcca    420
ccaatgggca aaccttctcc ctgcagtatg gcagtggcag cctcaccggc ttctttggct    480
atgacaccct gactgtccag agcatccaan gtccccaacc aggagttcgg cttgagtgag    540
aatnagcctg ggtaccaact tcgtctaagc gcagtttgat ggcatcatgg gcctggcctt    600
accctgctct gtccgtggat gaggccacca cagtatgcag ggcatgtgca ggagggcgcc    660
ctnaaccagc cccgtnttca gggtttacnt cagcaaccag cagggctccc agcggggggag    720
cggttgtcct ttgggggtgt ggatagcagc ntgtacacgg ggcagatcta ctgggcgcnt    780
gtcacccagg aactctactg gcagattggc attgaagagt tcctcatcgg cggccaggcc    840
tccggctggt gttctgaggg ttgccaggcc atcgtggaca caggcacctc tctgctcact    900
gtgccccagc agtacatgag tgctcttctg caggccacag gggcccagga ggatgagtat    960
ggacagtttc tcgtgaactg taacagcatt cagaatctgc ccagcttgac cttcatcatc   1020
aatggtgtgg agttccctct gccaccttcc tcctatatcc tcagtaacaa cggctactgc   1080
accgtgggag tcgagcccac ctacctgtcc tcccagaacg gccagcccct gtggatcctc   1140
ggggatgtct tcctcaggtc ctactattcc gtctacgact gggcaacaa cagagtaggc   1200
tttgccactg ccgcctagac ttgctgcctc gacacgtggg ctcccctctt cctcttgacc   1260
ctgcaccctc ctaggcatt gtatctgtct ttccactctg gattcagcct tcttttctg   1320
gactctggac tttctctaat aataaatagt tcttcttt                           1358
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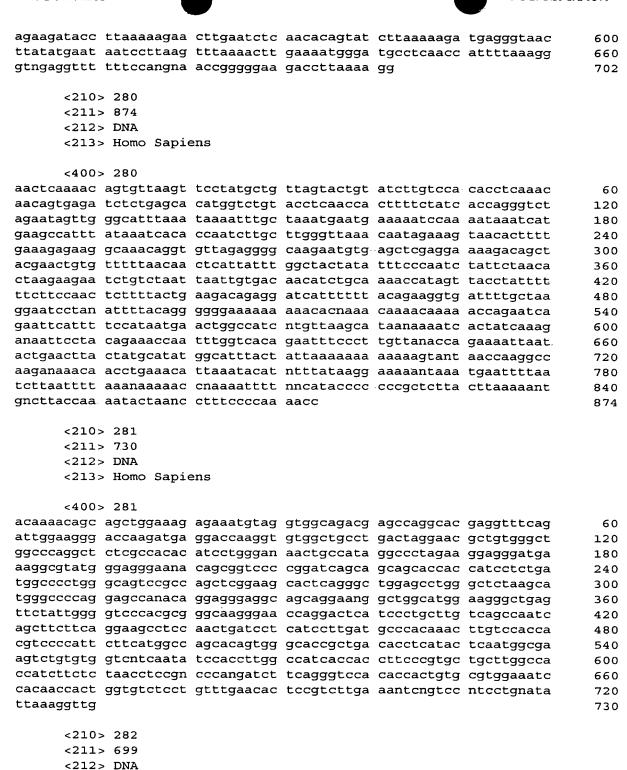
```
        <210> 279
        <211> 702
        <212> DNA
        <213> Homo Sapiens

        <400> 279
gaagcaatga atacgcaatt agaactttca gaacaactta aatttcagaa caactctgaa     60
gataatgtta aaaaactaca agaagagatt gagaaaatta ggccaggctt tgaggagcaa    120
attttatatc tgcaaaagca attagacgct accactgatg aaaagaagga aacagttact    180
caactccaaa atatcattga ggctaattct cagcattacc aaaaaaatat taatagtttg    240
caggaagagc ttttacagtt gaaagctata caccaagaag aggtgaaaga gttgatgtgc    300
cagattgaag catcagctaa ggaacatgaa gcagagataa ataagttgaa cgagctaaaa    360
gagaacttag taaaacaatg tgaggcaagt gaaaagaaca tccagaagaa atatgaatgt    420
gagttagaaa atttaaggaa agccacctca aatgcaaacc aagacaatca gatatgttct    480
attctcttgc aagaaaatac atttgtagaa caaagtagta aatgaaaaag tcaaacactt    540
```

```
agaagatacc ttaaaaagaa cttgaatctc aacacagtat cttaaaaaga tgagggtaac      600
ttatatgaat aatccttaag tttaaaactt gaaaatggga tgcctcaacc attttaaagg      660
gtngaggttt tttccangna accgggggaa gaccttaaaa gg                         702
```

```
        <210> 280
        <211> 874
        <212> DNA
        <213> Homo Sapiens

        <400> 280
aactcaaaac agtgttaagt tcctatgctg ttagtactgt atcttgtcca cacctcaaac       60
aacagtgaga tctctgagca catggtctgt acctcaacca cttttctatc accagggtct      120
agaatagttg ggcatttaaa taaaatttgc taaatgaatg aaaaatccaa aataaatcat      180
gaagccattt ataaatcaca ccaatcttgc ttgggttaaa caatagaaag taacactttt      240
gaaagagaag gcaaacaggt gttagagggg caagaatgtg agctcgagga aaagacagct      300
acgaactgtg tttttaacaa ctcattattt ggctactata tttcccaatc tattctaaca      360
ctaagaagaa tctgtctaat taattgtgac aacatctgca aaaccatagt tacctatttt      420
ttcttccaac tcttttactg aagacagagg atcatttttt acagaaggtg attttgctaa      480
ggaatcctan attttacagg ggggaaaaaa aaacacnaaa caaaacaaaa accagaatca      540
gaattcattt tccataatga actggccatc ntgttaagca taanaaaatc actatcaaag      600
anaattccta cagaaaccaa tttggtcaca gaatttccct tgttanacca gaaaattaat.     660
actgaactta ctatgcatat ggcatttact attaaaaaaa aaaaagtant aaccaaggcc      720
aaganaaaca acctgaaaca ttaaatacat ntttataagg aaaaantaaa tgaatttttaa     780
tcttaatttt aaanaaaaac cnaaaatttt nncataccc cccgctctta cttaaaaant       840
gncttaccaa aatactaanc ctttccccaa aacc                                  874
```

```
        <210> 281
        <211> 730
        <212> DNA
        <213> Homo Sapiens

        <400> 281
acaaaacagc agctggaaag agaaatgtag gtggcagacg agccaggcac gaggtttcag       60
attggaaggg accaagatga ggaccaaggt gtggctgcct gactaggaac gctgtgggct      120
ggcccaggct ctcgccacac atcctgggan aactgccata ggccctagaa ggagggatga      180
aaggcgtatg ggagggaana cagcggtccc cggatcagca gcagcaccac catcctctga      240
tggcccctgg gcagtccgcc agctcggaag cactcagggc tggagcctgg gctctaagca      300
tgggccccag gagccanaca ggagggaggc agcaggaang gctggcatgg aagggctgag      360
ttctattggg gtcccacgcg ggcaagggaa ccaggactca tccctgcttg tcagccaatc      420
agcttcttca ggaagcctcc aactgatcct catccttgat gcccacaaac ttgtccacca      480
cgtccccatt cttcatggcc agcacagtgg gcaccgctga cacctcatac tcaatggcga      540
agtctgtgtg gtcntcaata tccaccttgg ccatcaccac cttccgtgc tgcttggcca        600
ccatcttctc taacctccgn cccangatct tcagggtcca caccactgtg cgtggaaatc      660
cacaaccact ggtgtctcct gtttgaacac tccgtcttga aantcngtcc ntcctgnata      720
ttaaaggttg                                                             730
```

```
        <210> 282
        <211> 699
        <212> DNA
        <213> Homo Sapiens

        <400> 282
agaactcaga gctgctcttc ctctgtggcc agttggggac cagcatcatg aagtggatgg       60
tggtggtctt ggtctgcctc cagctcttgg aggcagcagt ggtcaaagtg cccctgaaga      120
aatttaagtc tatccgtgag accatgaagg agaagggctt gctgggggag ttcctgagga      180
```

```
cccacaagta tgatcctgct tggaagtacc gctttggtga cctcagcgtg acctacgagc    240
ccatggccta catggatgct gcctactttg gtgagatcag catcgggact ccaccccaga    300
acttcctggt cctttttgac accggctcct ccaacttgtg ggtgccctct gtctactgcc    360
agagccaggc ctgcaccagt cactcccgct tcaaccccag cgagtcgtcc acctactcca    420
ccaatgggca aaccttctcc ctgcagtatg gcagtggcag cctcaccggc ttctttggct    480
atgacaccct gactgtccag agcatccaan gtccccaacc aggagttcgg cttgagtgag    540
aatnagcctg ggtaccaact tcgtctaagc gcanttttga tgggatcaag ggcctgggcc    600
taacctggct ctgtcccgtt ggattaaggc caccacaagc tatntagggc nattnggntc    660
aaggatgggt gtcnctttat nnagcccccg tnctttcaa                          699
```

```
        <210> 283
        <211> 759
        <212> DNA
        <213> Homo Sapiens

        <400> 283
gaaattgaga actgatttaa tactaaagtt ctgaataaag gtgtgcactt tatgattgat     60
tctatctttt tgcacaagtt ggatactcca gtttcccatc ccaacatgtt gttcgcaatg    120
tgtgagaacg tgatgaaaga cgatatcccc gtttacacac aaattcaact gattcacctg    180
ttctcgaata aagcttctgt ttggctgtcc accttaatgc tatgttataa ttttccataa    240
tttctcggga tattacacac ggatgtaagc attttggtgg ttctgaccat tgtccatttc    300
tacatgttat tcgcttgtta ccctcaagtt gatacaagtt ctggcattgg tactcaactg    360
atgaagctgg agcatatact gacaacggga atgaagtaat gtccccattg tcaataggtg    420
gaggggggccc acattttcct gtagaatctt tgcattgagg tggttccgtc cagtttccat    480
ttaaacacat cacttcttca tccccaaaca tttcataagg gctcctacat tgataacgta    540
ctctctcacc agatggatat ttactcatct gtctcgacac tatataagca ttttgtactg    600
tgggcggatt ccacangang tgtctctgca tgttgggctt cctgtccact gctattaatg    660
catgttacat tactggctcc accattttgt aatatgttgc acaagtttta gtccttgctc    720
accccttat acacatcctt ctctctccat gggtttggc                          759
```

```
        <210> 284
        <211> 764
        <212> DNA
        <213> Homo Sapiens

        <400> 284
ggaccgcgat gacgcagact ggagggaggt gatgatgccc tattcgacag aactgatatt     60
ttatattgaa atggatcctc cagctcttcc accaaagcca cctaagccaa tgacttcagc    120
agttccaaca tggaatgaag gacagttctg tttctcttca ggatgcagaa tggtactggg    180
gggatatttc aagggaggag gtaaatgaca aattgcggga tatgccagat gggaccttct    240
tggtccgaga tgcctcaaca aaaatgcagg gagattatac tttgactttg cggaagggag    300
gcaataataa gttaataaag atctatcacc gggatggtaa atatggcttt tctgatcctc    360
tgacatttaa ttccgtggtg gagctcatta accactatca ccatgaatct cttgctcagt    420
acaatcccaa acttgatgtg aagctgatgt acccaagtgt ccagatacca acaggatcag    480
ttggtaaaag aagataatat tgatgcagta ngtaaaaaac tgcaagaata ccactctcaa    540
gtatcaggag aagagtaaag gagtatgata ngctgtatga agaatatact agaacatccc    600
aaggaaatac agatgaagag gactgcaata gaaagctttt aatgaaaaca ttaaaatatt    660
tggaagagca ntgtcacaca caaggaacca acattnccaa agaatatatt gagnngattt    720
cncaaaanaa ggggaaatga aaaggggggan ttgaacgaaa ttta                   764
```

```
        <210> 285
        <211> 586
        <212> DNA
        <213> Homo Sapiens
```

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<400> 285
gcattgcacc ttttctttac ccatacaaac aagttacaaa ggtttcaaac aacagntcat    60
tctttaggct aaggaaacac catacaagca ccaacttcat tttangattc aaagctcacc   120
atccccacaa aaagaatgct attccncatc tcagagaaac aggcaggaag gacanaaggg   180
gttagttaca gtgatcaatt ttagcgtttg ctaaaacnca caaattcnag ncttttttaag  240
ttcaagtttt ggtacagaag tatacattca actatgagtg ccacgttttc ccatcaaaca   300
ttggnctggc aacaaactgt tttgttggct tctgaacata atacttcttc anagggaggg   360
gctggtgaaa tgctgaancc taaattatgt tggnaagaaa caaagtacct tcanttgaag   420
gttttttta acanctnggc ttaaattatt taaatgaaan cccaagcctc ccnatttncc    480
tttggtngcc tttncanaa aatcccattc natcacaaaa ccctaaaaag ccttcttcgt    540
ngggggaaa aaananactg ccaaangcaa aaacaaaaac ncccaa                   586


       <210> 286
       <211> 666
       <212> DNA
       <213> Homo Sapiens


       <400> 286
gcctggagtt cagtgggtgc agcctgcttg cgagctgagg ccagacaggg gggcgcctac    60
ggacggaaaa gaaaagttga ttacaaacgg gaccatattt tgcttcgaaa tggaaccagc   120
agttagcgag ccaatgagag accaagtcgc acggactcat ttgacagagg acactcccaa   180
agtgaatgct gacatagaaa aggttaacca gaatcaggcc aagagatgca cagtgatcgg   240
gggctctgga ttcctggggc agcacatggt ggagcagttg ctggcaagag gatatgctgt   300
caatgtattt gatatccagc aagggtttga taatccccag gtgcggttct ttctgggtga   360
cctctgcagc cgacaggatc tgtacccagc tctgaaaggt gtaaacacag ttttccactg   420
tgcgtcaccc ccaccatcca gtaacaacaa ggagctcttt tatagaagtg aattacattg   480
gcaccaagaa tgtcattgaa acttgcaaag aggctggggt tcagaaactc attttaacca   540
gcagtgccat gtcatctttg agggcgtcga tatcaagaat ggaactgaaa gaccttccct   600
nagccattga aaccaattga cctactacac aaganactaa agatcttaca ngagaaggca   660
atttct                                                             666


       <210> 287
       <211> 782
       <212> DNA
       <213> Homo Sapiens


       <400> 287
gacagagaac aaatcggtat aatatgaagc tgcctgcttc aagaaatcca aatccagttc    60
catgaaggaa gaaatgtctg tttttgccgc cctcatcgtc acggaaagag tagggtgcgc   120
tctctgccta gcagaaggag tcacaggctc agagcaaact cattcaaagg atgttatttc   180
atcaatccac aggggaagga gtgactggct gagcaacgtg tcgagagagc ccagcctcca   240
gtgtccctca cttgaccctc cgcaggtggc gaaagctctg cacggtcctc tccatagcat   300
catccatggt cactagtggc tggtagccca tggccttttt ggctctctcg cagctgtagt   360
agtggaatgt gccagccagt gcgacccgca tgggtgtgaa ggtgggctgc agctggatga   420
caggactgat caccatcacc agcagggata gcaggagggc caggtagtag gccacccagt   480
aggggatgtg gtacttgggg gcctcataat tgaggcctgt caaggatgcg agacaggaat   540
gtccaaaaag ggatgggctc atcattggtg atgtgaaatg ccttcccacc cagtgtcgag   600
tctcngggan anctgctctg ccgccaagat tgtccatggg accaaggttc tcacaaaggt   660
gaaagtccac caagttcctc ccaatttcca atcacgaaac ttcaaccttg ccgttcctgg   720
ctgcctccat gaaggatggg ttacaaactg ccgggttccc tttggggccg aaaaattgcc   780
aa                                                                 782


       <210> 288
       <211> 707
       <212> DNA
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● ●

<213> Homo Sapiens

<400> 288

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gtggttccag cgccggtttt gaccgccaca ttaccatttt ttcacccgag ggtcggctct    60
accaagtaga atatgctttt aaggctatta accagggtgg ccttacatca gtagctgtca   120
gagggaaaga ctgtgcagta attgtcacac agaagaaagt acctgacaaa ttattggatt   180
ccagcacagt gactcactta ttcaagataa ctgaaaacat tggttgtgtg atgaccggaa   240
tgacagctga cagcagatcc caggtacaga gggcacgcta tgaggcagct aactggaaat   300
acaagtatgg ctatgagatt cctgtggaca tgctgtgtaa aagaattgcc gatatttctc   360
aggtctacac acagaatgct gaaatgaggc ctcttggttg ttgtatgatt ttaattggta   420
tagatgaaga gcaaggccct caggtatata agtgtgatcc tgcaggttac tactgtgggt   480
ttaaagccac tgcagcggga gttaaacaaa ctgagtcaac cagcttcctt gaaaaaaaag   540
tgaagaagaa atttgattgg acatttgaac agacagtgga aactgcaatt acatgcctgt   600
ctactgttcc atcaattgan ttcaaacctt cagaaataga aattgggagt aatgacagtt   660
gaaaatccta aattcangan tcctacagaa gcagagattg atgctca                 707
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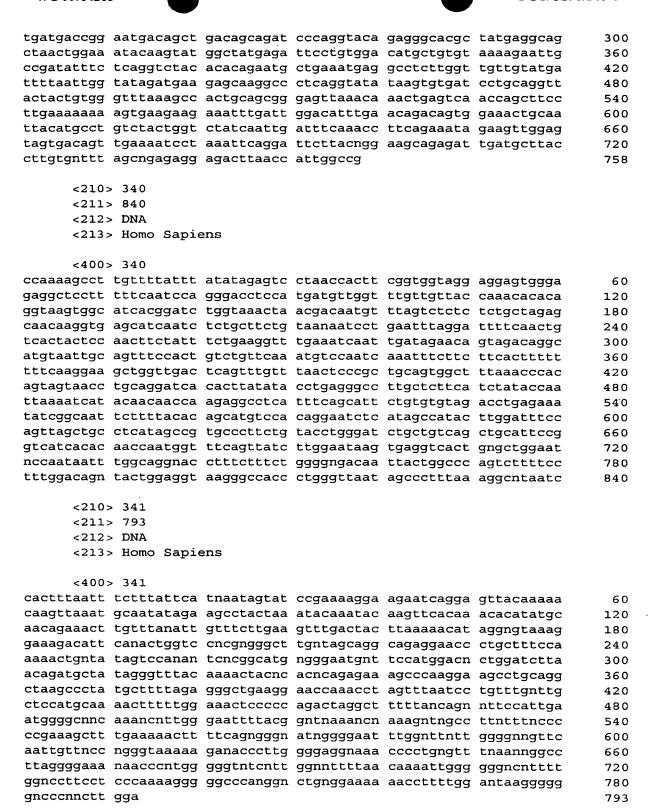
<210> 289
<211> 673
<212> DNA
<213> Homo Sapiens

<400> 289

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atggcaccat cacaacaaag gaacttggaa ctgtcatgag gtcactgggt cagaacccaa    60
cagaagctga attgcaggat atgatcaatg aagtggatgc tgatggtaat ggcaccattg   120
acttcccccnn attttttgact atgatggcta gaaaaatgaa agatacagat agtgaagaag   180
aaatccgtga ggcattccga gtctttgaca aggatggcaa tggttatatc agtgcagcag   240
aactacgtca cgtcatgaca aacttaggag aaaaactaac agatgaagaa gtagatgaaa   300
tgatcagaga agcagatatt gatggagacg gacaagtcaa ctatgaagaa ttcgtacaga   360
tgatgactgc aaaatgaaga cctactttca actccttttt ccccccctcta gaagaatcaa   420
attgaatctt ttacttacct cttgcaaaaa aaaaaaaaat aagncanaaa annnataaaa   480
aaaaaaacnc gagagtactt ctaaagcggc cgcgggccna tcgattttcc acccgggtgg   540
ggtaccaggt aagtgtccca attcgcccta tagggagtc gtattacaat tcacggggcc   600
gtcgtttta aaacgtcntg acggggaaa accctggngt taccaactta atccccttg     660
caacaaatnc ccc                                                       673
```

<210> 290
<211> 573
<212> DNA
<213> Homo Sapiens

<400> 290

```
gcaagaggta agtaaaagat tcaatttgat tcttctanag gggggaaaaa ggagttgaaa    60
gtaggtcttc attttgcagt catcatctgt acgaattctt canagttgac ttgtccgtct   120
ccatcaatat ctgcttcnct gatcatttca tctacttctt catctgttag tttttcnccn   180
aagtttgtca tgacgtgacg tagttctgct gcactgatat aaccattgcc atccttgtca   240
aagactcgga atgcctcacg gatttcttct tcactatctg tatctttcan ttttcnagcc   300
atcatagtca aaaattcggg gaantcaatg gngccattac catcagcatc cacttcattg   360
atcatatcct gnaattcaan cttctgttgg gttntgaccc antgaccnca nggacaagtt   420
ccaagttccc tttggttgtg aagggtgcca nctcgtgccc gaattccttt gggntccnac   480
gangggtcna accctgcana ggngccgcga ancctccaan cttttggttc ccctttanat   540
ngagggttaa atttcgaact ttggntttt tcc                                  573
```

<210> 291
<211> 819
<212> DNA

●   ●

<213> Homo Sapiens

<400> 291

```
aaagaagaac tatttattat tagagaaagt ccagagtcca gaaaaagaag gctgaatcca      60
gagtggaaag acagatacaa tgccctagga gggtgcaggg tcaagaggaa gaggggagcc     120
cacgtgtcga ggcagcaagt ctaggcggca gtggcaaagc ctactctgtt gttgcccaag     180
tcgtagacgg aatagtagga cctgaggaag acatccccga ggatccacag gggctggccg     240
ttctgggagg acaggtaggt gggctcgact cccacggtgc agtagccgtt gttactgagg     300
atataggagg aaggtggcag agggaactcc acaccattga tgatgaaggt caagctgggc     360
agattctgaa tgctgttaca gttcacgaga aactgtccat actcatcctc ctgggcccct     420
gtggcctgca gaagagcact catgtactgc tggggcacag tgagcagaga ggtgcctgtg     480
tccacgatgg cctggcaacc ctcagaacac cagccggagg cctggccgcc gatgaggaac     540
tcttcaatgc caatctgcca gtagagttcc tgggtgacan gcgcccagta gatctgcccc     600
gtgtacangc tgctatccac accccccaaag gacaaccgct ccccgctgg gagccctgct     660
ggttgctgan gtaaaccctg aanacggggc tggttnaggg cgccctcctg cacatgccct     720
gcatactgtg gtggcctcat ccacggncna aaccanggta aggcaaggcc catgatgcca     780
tcaaactgcc ataacaaatt tgtacaaggc tcaatccca                           819
```

<210> 292
<211> 664
<212> DNA
<213> Homo Sapiens

<400> 292

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ctcgcgctcg cgctggtggc ggtcgcctgg gtccgcgccg aggaagagct aaggagcaaa      60
tccaagatct gtgccaatgt gtttttgtgga gccggccggg aatgtgcagt cacagagaaa     120
ggggaaccca cctgtctctg cattgagcaa tgcaaacctc acaagaggcc tgtgtgtggc     180
agtaatggca agacctacct caaccactgt gaactgcatc gagatgcctg cctcactgga     240
tccaaaatcc aggttgatta cgatggacac tgcaaagaga agaaatccgt aagtccatct     300
gccagcccag ttgtttgcta tcagtccaac cgtgatgagc tccgacgtcg catcatccaa     360
tggctggaan ctgagatcat tccagatggc tggttctcta aaggcagcaa ctacagtgaa     420
atcctagaca agtattttaa agaactttga taatggtgat tctcgcctgg actccaagtg     480
aattcctgaa gtttgtggga acangaatga aactgccatc aatattacaa cgtttccagn     540
accaagggag aacaacaagt ttgcctaang ggactccggt ngttgatgcc tctcaatttg     600
aactggtctg gatgaaaaat gcctgattgg gnaattnaag cttcccaant agtttcncca     660
aatg                                                                  664
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<210> 293
<211> 719
<212> DNA
<213> Homo Sapiens
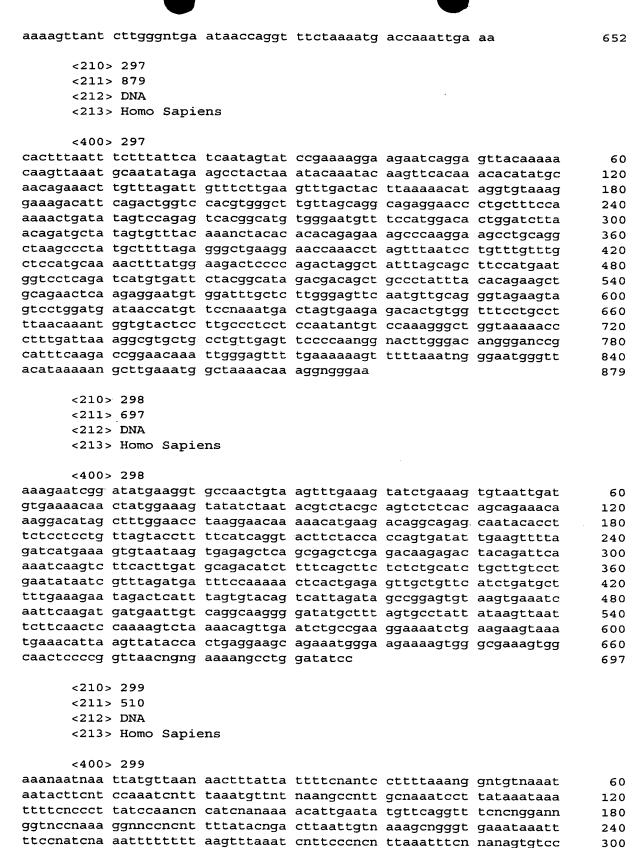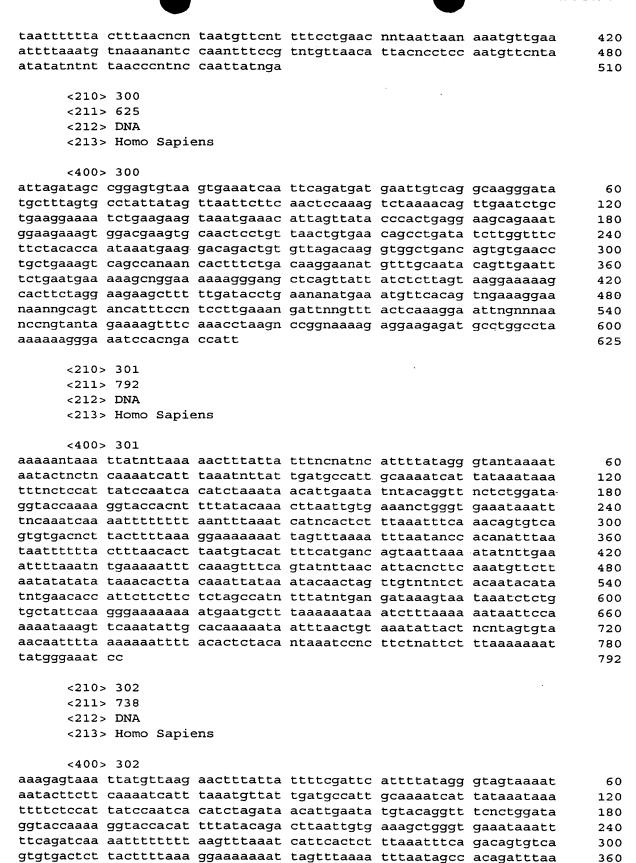
<400> 293
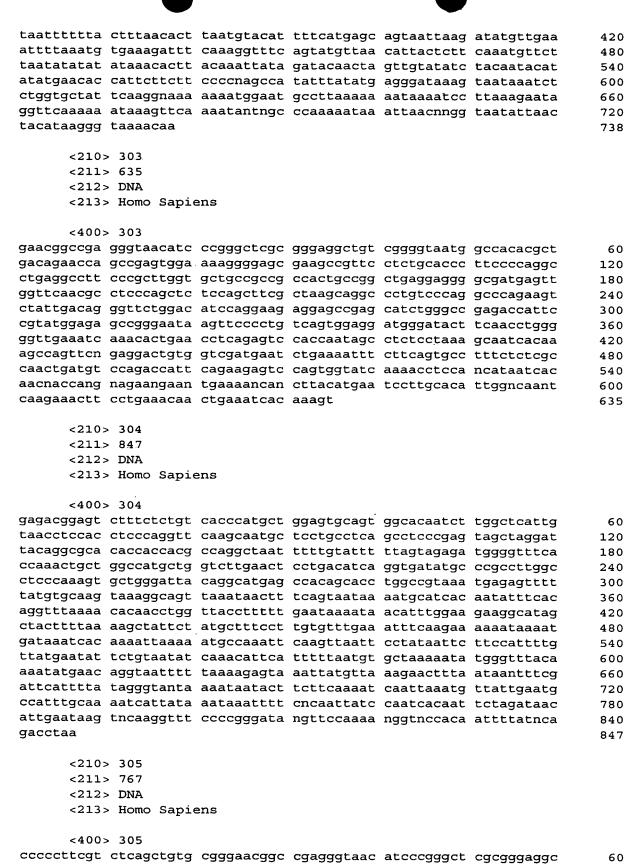
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cactttaatt tctttattca tcaatagtat ccgaaaagga agaatcagga gttacaaaaa      60
caagttaaat gcaatatana agcctactaa atacaaatac aagttcacaa acacatatgc     120
aacagaaact tgtttanatt gtttcttgaa gtttgactac ttaaaaacat aggtgtaaag     180
gaaagacatt cagactggtc cacgtgggct tgttagcagg canaggaacc ctgctttcca     240
aaaactgata tagtccaaag tcacggcatg tgggaatgtt tccatggaca ctggatctta     300
acagatgcta tagtgtttac aaaactacac acacagagaa agcccaagga agcctgcagg     360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgtttg     420
ctccatgcaa aactttatgg aagactcccc agactaggct atttagcagc ttccatgaat     480
ggtcctcaga tcatgtgatt ctacggcata nacgacagct gccctatta cacagaagct     540
gcagaactca agaagaatgt ggatttgctc ttgggganttc aatgttgcag ggtanantaa     600
tcttgggatg ataaccatgt tctaaatgac tagtgaanaa acctgtggtt tcttgctttt     660
aacaaattgg tgtactcttg cccctcccat aatgtccaag ggctgggtaa aacctttga     719
```

-181-
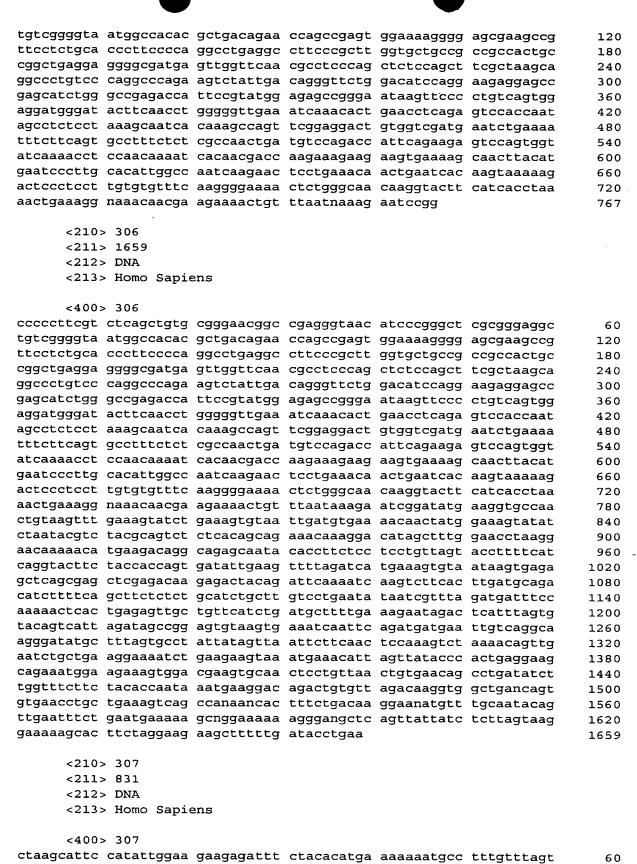
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<210> 294
<211> 762
<212> DNA
<213> Homo Sapiens

<400> 294
agctaaggag caaatccaag atctgtgcca atgtgttttg tggagccggc cgggaatgtg       60
cagtcacaga gaaaggggaa cccacctgtc tctgcattga gcaatgcaaa cctcacaaga      120
ggcctgtgtg tggcagtaat ggcaagacct acctcaacca ctgtgaactg catcgagatg      180
cctgcctcac tggatccaaa atccaggttg attacgatgg acactgcaaa gagaagaaat      240
ccgtaagtcc atctgccagc ccagttgttt gctatcagtc caaccgtgat gagctccgac      300
gtcgcatcat ccagtggctg gaagctgaga tcattccaga tggctggttc tctaaaggca      360
gcaactacag tgaaatccta gacaagtatt ttaagaactt tgataatggt gattctcgcc      420
tggactccag tgaattcctg aagtttgtgg aacagaatga aactgccatc aatattacaa      480
cgtatccaga ccaggagaac aacaaagttg cttaggggac tctgtgttga tgccctcatt      540
gaactgtctg gatgaaaatg ctgattggna actcagcttc caagagtttc tcaaagtgcc      600
ctcaaaccca tctttcaacc ctcctgagaa agaagtgtgc cctgngaggg attaaacgta      660
atgcagatgg agnctgagac cnaaggtgga ccngttnacc gcctgtgtcc ggtgcccggt      720
ggaaattggg tcnggtncag ccatgaacct gttacgggaa ag                        762

<210> 295
<211> 708
<212> DNA
<213> Homo Sapiens

<400> 295
cactttaatt tctttattca tcaatagtat ccgaaaagga agaatcagga gttacaaaaa       60
caagttaaat gcaatataga agcctactaa atacaaatac aagttcacaa acacatatgc      120
aacagaaact tgtttanatt gtttcttgaa gtttgactac ttaaaaacat aggtgtaaag      180
gaaagacatt cagactggtc cacgtgggct tgttagcagg cagaggaacc ctgctttcca      240
aaaactgata tagtccagag tcacggcatg tgggaatgtt tccatggaca ctggatctta      300
acagatgcta tagtgtttac aaaactacac acacagagaa agcccaagga agcctgcagg      360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgtttg      420
ctccatgcaa aactttatgg aagactcccc agactaggct atttagcagc ttccatgaat      480
ggtcctcaga tcatgtgatt ctacggcata gacgacagct gccctattta cacagaagct      540
gcagaactca agaggaatgt ggatttgctc ttgggagttc aatgttgcag ggtaaaagta      600
gtcctggatg ataaccatgt tccaaatgac taagtgaaga gacactgtgg gttcctgcct      660
tttaacaaaa tgggggtact cctgcccctc ctccccanaa atgtccaa                  708

<210> 296
<211> 652
<212> DNA
<213> Homo Sapiens

<400> 296
cactttaatt tctttattca tcaatagtat ccgaaaagga agaatcagga gttacaaaaa       60
caagttaaat gcaatataga agcctactaa atacaaatac aagttcacaa acacatatgc      120
aacagaaact tgtttanatt gtttcttgaa gtttgactac ttaaaaacat aggtgtaaag      180
gaaagacatt cagactggtc cacgtgggct tgttagcagg cagaggaacc ctgctttcca      240
aaaactgata tagtccagag tcacggcatg tgggaatgtt tccatggaca ctggatctta      300
acagatgcta tagtgtttac aaaactacac acacagagaa agcccaagga agcctgcagg      360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgtttg      420
ctccatgcaa aactttatgg aagactcccc aagactaggc tatttagcag cttccatgaa      480
tggtcctcag atcaagtgat tctacggnat anacgacaag ctgccctatt tacacagaag      540
ctgcangaac tcaagaggga atgtgggatt gcccctgggg agttcaatgg ttgcangggt      600
```

```
aaaagttant cttgggntga ataaccaggt ttctaaaatg accaaattga aa          652
```

```
        <210> 297
        <211> 879
        <212> DNA
        <213> Homo Sapiens


        <400> 297
cactttaatt tctttattca tcaatagtat ccgaaaagga agaatcagga gttacaaaaa   60
caagttaaat gcaatataga agcctactaa atacaaatac aagttcacaa acacatatgc   120
aacagaaact tgtttagatt gtttcttgaa gtttgactac ttaaaaacat aggtgtaaag   180
gaaagacatt cagactggtc cacgtgggct tgttagcagg cagaggaacc ctgctttcca   240
aaaactgata tagtccagag tcacggcatg tgggaatgtt tccatggaca ctggatctta   300
acagatgcta tagtgtttac aaanctacac acacagagaa agcccaagga agcctgcagg   360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgtttg   420
ctccatgcaa aactttatgg aagactcccc agactaggct atttagcagc ttccatgaat   480
ggtcctcaga tcatgtgatt ctacggcata gacgacagct gccctattta cacagaagct   540
gcagaactca agaggaatgt ggatttgctc ttgggagttc aatgttgcag ggtagaagta   600
gtcctggatg ataaccatgt tccnaaatga ctagtgaaga gacactgtgg tttcctgcct   660
ttaacaaant ggtgtactcc ttgccctcct ccaatantgt ccaaagggct ggtaaaaacc   720
ctttgattaa aggcgtgctg cctgttgagt tccccaangg nacttgggac angggnccg   780
catttcaaga ccggaacaaa ttgggagttt tgaaaaaagt ttttaaatng ggaatgggtt   840
acataaaaan gcttgaaatg gctaaaacaa aggngggaa                         879


        <210> 298
        <211> 697
        <212> DNA
        <213> Homo Sapiens


        <400> 298
aaagaatcgg atatgaaggt gccaactgta agtttgaaag tatctgaaag tgtaattgat   60
gtgaaaacaa ctatggaaag tatatctaat acgtctacgc agtctctcac agcagaaaca   120
aaggacatag ctttggaacc taaggaacaa aaacatgaag acaggcagag caatacacct   180
tctcctcctg ttagtacctt ttcatcaggt acttctacca ccagtgatat tgaagtttta   240
gatcatgaaa gtgtaataag tgagagctca gcgagctcga gacaagagac tacagattca   300
aaatcaagtc ttcacttgat gcagacatct tttcagcttc tctctgcatc tgcttgtcct   360
gaatataatc gtttagatga tttccaaaaa ctcactgaga gttgctgttc atctgatgct   420
tttgaaagaa tagactcatt tagtgtacag tcattagata gccggagtgt aagtgaaatc   480
aattcaagat gatgaattgt caggcaaggg gatatgcttt agtgcctatt ataagttaat   540
tcttcaactc caaaagtcta aaacagttga atctgccgaa ggaaaatctg aagaagtaaa   600
tgaaacatta agttatacca ctgaggaagc agaaatggga agaaaagtgg gcgaaagtgg   660
caactccccg gttaacngng aaaangcctg gatatcc                          697


        <210> 299
        <211> 510
        <212> DNA
        <213> Homo Sapiens


        <400> 299
aaanaatnaa ttatgttaan aactttatta ttttcnantc cttttaaang gntgtnaaat   60
aatacttcnt ccaaatcntt taaatgttnt naangccntt gcnaaatcct tataaataaa   120
ttttcnccct tatccaancn catcnanaaa acattgaata tgttcaggtt tcncnggann   180
ggtnccnaaa ggnnccncnt tttatacnga cttaattgtn aaagcngggt gaaataaatt   240
ttccnatcna aatttttttt aagtttaaat cnttcccncn ttaaatttcn nanagtgtcc   300
gtgtnactcc tacttttaaa ggaaaaaaat tantttaaaa tttaatancc cccgatttaa   360
```

```
taatttttta ctttaacncn taatgttcnt tttcctgaac nntaattaan aaatgttgaa      420
attttaaatg tnaaanantc caantttccg tntgttaaca ttacncctcc aatgttcnta      480
atatatntnt taaccentnc caattatnga                                       510
```

```
<210> 300
<211> 625
<212> DNA
<213> Homo Sapiens
```

```
<400> 300
attagatagc cggagtgtaa gtgaaatcaa ttcagatgat gaattgtcag gcaagggata       60
tgctttagtg cctattatag ttaattcttc aactccaaag tctaaaacag ttgaatctgc      120
tgaaggaaaa tctgaagaag taaatgaaac attagttata cccactgagg aagcagaaat      180
ggaagaaagt ggacgaagtg caactcctgt taactgtgaa cagcctgata tcttggtttc      240
ttctacacca ataaatgaag gacagactgt gttagacaag gtggctganc agtgtgaacc      300
tgctgaaagt cagccanaan cactttctga caaggaanat gtttgcaata cagttgaatt      360
tctgaatgaa aaagcnggaa aaaagggang ctcagttatt atctcttagt aaggaaaaag      420
cacttctagg aagaagcttt ttgatacctg aananatgaa atgttcacag tngaaaggaa      480
naanngcagt ancatttccn tccttgaaan gattnngttt actcaaagga attngnnnaa      540
nccngtanta gaaaagtttc aaacctaagn ccggnaaaag aggaagagat gcctggccta      600
aaaaaaggga aatccacnga ccatt                                            625
```

```
<210> 301
<211> 792
<212> DNA
<213> Homo Sapiens
```

```
<400> 301
aaaaantaaa ttatnttaaa aactttatta tttncnatnc attttatagg gtantaaaat       60
aatactnctn caaaatcatt taaatnttat tgatgccatt gcaaaatcat tataaataaa      120
tttnctccat tatccaatca catctaaata acattgaata tntacaggtt nctctggata      180
ggtaccaaaa ggtaccacnt tttatacaaa cttaattgtg aaanctgggt gaaataaatt      240
tncaaatcaa aattttttt aantttaaat catncactct ttaaatttca aacagtgtca      300
gtgtgacnct tactttaaa ggaaaaaaat tagtttaaaa tttaatancc acanatttaa      360
taatttttta ctttaacact taatgtacat tttcatganc agtaattaaa atatnttgaa      420
attttaaatn tgaaaaattt caaagtttca gtatnttaac attacncttc aaatgttctt      480
aatatatata taaacactta caattataa atacaactag ttgtntntct acaatacata      540
tntgaacacc attcttcttc tctagccatn tttatntgan gataaagtaa taaatctctg      600
tgctattcaa gggaaaaaaa atgaatgctt taaaaaataa atctttaaaa aataattcca      660
aaaataaagt tcaaatattg cacaaaaata atttaactgt aaatattact ncntagtgta      720
aacaattta aaaaaatttt acactctaca ntaaatccnc ttctnattct ttaaaaaaat      780
tatgggaaat cc                                                          792
```

```
<210> 302
<211> 738
<212> DNA
<213> Homo Sapiens
```

```
<400> 302
aaagagtaaa ttatgttaag aactttatta ttttcgattc attttatagg gtagtaaaat       60
aatacttctt caaaatcatt taaatgttat tgatgccatt gcaaaatcat tataaataaa      120
ttttctccat tatccaatca catctagata acattgaata tgtacaggtt tcnctggata      180
ggtaccaaaa ggtaccacat tttatacaga cttaattgtg aaagctgggt gaaataaatt      240
ttcagatcaa aattttttt aagtttaaat cattcactct ttaaatttca gacagtgtca      300
gtgtgactct tactttaaa ggaaaaaaat tagtttaaaa tttaatagcc acagatttaa      360
```

```
taattttta ctttaacact taatgtacat tttcatgagc agtaattaag atatgttgaa    420
attttaaatg tgaaagattt caaaggtttc agtatgttaa cattactctt caaatgttct    480
taatatatat ataaacactt acaaattata gatacaacta gttgtatatc tacaatacat    540
atatgaacac cattcttctt ccccnagcca tatttatatg agggataaag taataaatct    600
ctggtgctat tcaaggnaaa aaaatggaat gccttaaaaa aataaaatcc ttaaagaata    660
ggttcaaaaa ataaagttca aaatantngc ccaaaaataa attaacnngg taatattaac    720
tacataaggg taaaacaa                                                   738
```

```
        <210> 303
        <211> 635
        <212> DNA
        <213> Homo Sapiens

        <400> 303
gaacggccga gggtaacatc ccgggctcgc gggaggctgt cggggtaatg gccacacgct     60
gacagaacca gccgagtgga aaaggggagc gaagccgttc ctctgcaccc ttccccaggc    120
ctgaggcctt cccgcttggt gctgccgccg ccactgccgg ctgaggaggg gcgatgagtt    180
ggttcaacgc ctcccagctc tccagcttcg ctaagcaggc cctgtcccag gcccagaagt    240
ctattgacag ggttctggac atccaggaag aggagccgag catctgggcc gagaccattc    300
cgtatggaga gccgggaata agttcccctg tcagtggagg atgggatact tcaacctggg    360
ggttgaaatc aaacactgaa cctcagagtc caccaatagc ctctcctaaa gcaatcacaa    420
agccagttcn gaggactgtg gtcgatgaat ctgaaaattt cttcagtgcc tttctctcgc    480
caactgatgt ccagaccatt cagaagagtc cagtggtatc aaaaacctcca ncataatcac    540
aacnaccang nagaangaan tgaaaancan cttacatgaa tccttgcaca ttggncaant    600
caagaaactt cctgaaacaa ctgaaatcac aaagt                                635
```

```
        <210> 304
        <211> 847
        <212> DNA
        <213> Homo Sapiens

        <400> 304
gagacggagt ctttctctgt cacccatgct ggagtgcagt ggcacaatct tggctcattg     60
taacctccac ctcccaggtt caagcaatgc tcctgcctca gcctcccgag tagctaggat    120
tacaggcgca caccaccacg ccaggctaat ttttgtattt ttagtagaga tggggtttca    180
ccaaactgct ggccatgctg gtcttgaact cctgacatca ggtgatatgc ccgccttggc    240
ctcccaaagt gctgggatta caggcatgag ccacagcacc tggccgtaaa tgagagtttt    300
tatgtgcaag taaaggcagt taaataactt tcagtaataa aatgcatcac aatatttcac    360
aggtttaaaa cacaacctgg ttaccttttt gaataaaata acatttggaa gaaggcatag    420
ctacttttaa aagctattct atgctttcct tgtgtttgaa atttcaagaa aaaataaaat    480
gataaatcac aaaattaaaa atgccaaatt caagttaatt cctataattc ttccattttg    540
ttatgaatat tctgtaatat caaacattca tttttaatgt gctaaaaata tgggtttaca    600
aaatatgaac aggtaatttt taaaagagta aattatgtta aagaacttta ataantttcg    660
attcatttta tagggtanta aaataatact tcttcaaaat caattaaatg ttattgaatg    720
ccatttgcaa aatcattata aataaatttt cncaattatc caatcacaat tctagataac    780
attgaataag tncaaggttt ccccgggata ngttccaaaa nggtnccaca attttatnca    840
gacctaa                                                              847
```

```
        <210> 305
        <211> 767
        <212> DNA
        <213> Homo Sapiens

        <400> 305
cccccttcgt ctcagctgtg cgggaacggc cgagggtaac atcccgggct cgcgggaggc     60
```

```
tgtcggggta atggccacac gctgacagaa ccagccgagt ggaaaagggg agcgaagccg     120
ttcctctgca cccttcccca ggcctgaggc cttcccgctt ggtgctgccg ccgccactgc     180
cggctgagga ggggcgatga gttggttcaa cgcctcccag ctctccagct tcgctaagca     240
ggccctgtcc caggcccaga agtctattga cagggttctg gacatccagg aagaggagcc     300
gagcatctgg gccgagacca ttccgtatgg agagccggga ataagttccc ctgtcagtgg     360
aggatgggat acttcaacct gggggttgaa atcaaacact gaacctcaga gtccaccaat     420
agcctctcct aaagcaatca caaagccagt tcggaggact gtggtcgatg aatctgaaaa     480
tttcttcagt gcctttctct cgccaactga tgtccagacc attcagaaga gtccagtggt     540
atcaaaacct ccaacaaaat cacaacgacc aagaagaag aagtgaaaag caacttacat     600
gaatcccttg cacattggcc aatcaagaac tcctgaaaca actgaatcac aagtaaaaag     660
actccctcct tgtgtgtttc aaggggaaaa ctctgggcaa caaggtactt catcacctaa     720
aactgaaagg naaacaacga agaaaactgt ttaatnaaag aatccgg                   767
```

<210> 306
<211> 1659
<212> DNA
<213> Homo Sapiens

<400> 306
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ccccccttcgt ctcagctgtg cgggaacggc cgagggtaac atcccgggct cgcgggaggc      60
tgtcggggta atggccacac gctgacagaa ccagccgagt ggaaaagggg agcgaagccg     120
ttcctctgca cccttcccca ggcctgaggc cttcccgctt ggtgctgccg ccgccactgc     180
cggctgagga ggggcgatga gttggttcaa cgcctcccag ctctccagct tcgctaagca     240
ggccctgtcc caggcccaga agtctattga cagggttctg gacatccagg aagaggagcc     300
gagcatctgg gccgagacca ttccgtatgg agagccggga ataagttccc ctgtcagtgg     360
aggatgggat acttcaacct gggggttgaa atcaaacact gaacctcaga gtccaccaat     420
agcctctcct aaagcaatca caaagccagt tcggaggact gtggtcgatg aatctgaaaa     480
tttcttcagt gcctttctct cgccaactga tgtccagacc attcagaaga gtccagtggt     540
atcaaaacct ccaacaaaat cacaacgacc aagaagaag aagtgaaaag caacttacat     600
gaatcccttg cacattggcc aatcaagaac tcctgaaaca actgaatcac aagtaaaaag     660
actccctcct tgtgtgtttc aaggggaaaa ctctgggcaa caaggtactt catcacctaa     720
aactgaaagg naaacaacga agaaaactgt ttaataaaga atcggatatg aaggtgccaa     780
ctgtaagttt gaaagtatct gaaagtgtaa ttgatgtgaa acaactatg gaaagtatat     840
ctaatacgtc tacgcagtct ctcacagcag aaacaagga catagctttg gaacctaagg     900
aacaaaaaca tgaagacagg cagagcaata caccttctcc tcctgttagt accttttcat     960
caggtacttc taccaccagt gatattgaag ttttagatca tgaaagtgta ataagtgaga    1020
gctcagcgag ctcgagacaa gagactacag attcaaaatc aagtcttcac ttgatgcaga    1080
catcttttca gcttctctct gcatctgctt gtcctgaata taatcgttta gatgatttcc    1140
aaaaactcac tgagagttgc tgttcatctg atgcttttga aagaatagac tcatttagtg    1200
tacagtcatt agatagccgg agtgtaagtg aaatcaattc agatgatgaa ttgtcaggca    1260
agggatatgc tttagtgcct attatagtta attcttcaac tccaaagtct aaaacagttg    1320
aatctgctga aggaaaatct gaagaagtaa atgaaacatt agttataccc actgaggaag    1380
cagaaatgga agaaagtgga cgaagtgcaa ctcctgttaa ctgtgaacag cctgatatct    1440
tggtttcttc tacaccaata aatgaaggac agactgtgtt agacaaggtg gctgancagt    1500
gtgaacctgc tgaaagtcag ccanaancac tttctgacaa ggaanatgtt tgcaatacag    1560
ttgaatttct gaatgaaaaa gcnggaaaaa agggangctc agttattatc tcttagtaag    1620
gaaaaagcac ttctaggaag aagctttttg atacctgaa                          1659
```

<210> 307
<211> 831
<212> DNA
<213> Homo Sapiens

<400> 307
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ctaagcattc catattggaa gaagagattt ctacacatga aaaaaatgcc tttgtttagt      60
```

-186-

```
aaatcacaca aaaatccagc agaaattgtg aaaatcctga aagacaattt ggccattttg        120
gaaaagcaag acaaaaagac agacaaggct tcagaagaag tgtctaaatc actgcaagca        180
atgaaagaaa ttctgtgtgg tacaaacgag aaagaacccc caacagaagc agtggctcag        240
ctagcacaag aactctacag cagtggcctg ctagtgacac tgatagctga cctgcagctg        300
atagactttg agggaaaaaa agatgtgacc cagatattta acaacatctt gagaagacag        360
ataggcactc ggagtcctac tgtggagtat attagtgctc atcctcatat cctgtttatg        420
ctcctcaaag gatatgaagc cccacagatt gccttacgtt gtgggattat gctgagagaa        480
tgtattcgac atgaaccact tgccaaaatc atcctctttt ctaatcaatt cagagatttc        540
tttaagtacg tggagttgtc aacatttgat attgcttcag atgcctttgc tactttcaag        600
ggatttacta accagacata aagtgttggt agcaagactt cttagaacaa aattacgaca        660
ctanttttga agactatgag aaattgcttc agtctgagaa attatgttac caagagacag        720
tccttaaagc ctgctaaggg aactgattct ggaccgtcan aactttgcca tcaangcaaa        780
agtttatcaa caagccnggg gaaaccggaa acncaaggag gaacctcctt c                 831
```

```
        <210> 308
        <211> 833
        <212> DNA
        <213> Homo Sapiens

        <400> 308
ccattcaaat gtttatactc catctaccca gaacaattac agcagaaaaa ataggcacct         60
ccaaagtctt cccaagaatg atgactttct gaaatgacac actgtacaaa ctggacaaat        120
gagacgactg actgtgacag gggccgggga gctcttcaag gggccgtttt cttcaagtct        180
cggatctgtt taatcaagta gttcttctcg tcagcgaact gctcatcatc cgtcctttct        240
ttttggaagc tgctcagaaa ctcaatgagt ttgggctgat tttttaacag gatctccaca        300
ataggctgtg ttttgtgagg actggccaca aacaccttaa aaacatgaaa ggcttcaaac        360
tggatgttgg gacttttatc ccgaaggagg ttcatcatga gtttcaggtt ctccggcttg        420
ctgatatact ttgtcatgat ggcaaagttg tgacggtcca ggatcagctc ccctagcagc        480
tttaaagact gtctcttagt aacataattc tcagactgaa gcaatttctc atagtcttca        540
aaaatagtgt cgtaattttg ttctaagaag tctgctacca cactttaag gtcnggttag         600
taaatccttg aaagtagcaa aggcatctga agcaatatca aatgttgaca actccacgtt        660
acttaaagaa atctctgaat tgattagaaa aagaggatga ntttgggcaa ntgggtcaag        720
tcgaatanat tcctctcaag cataaaccca caaacgttaa ggnaaaccgg tgggggcttc        780
aaaanccntt gagggagcat aaancangga tattagggat nagcacccaa ata              833
```

```
        <210> 309
        <211> 1320
        <212> DNA
        <213> Homo Sapiens

        <400> 309
gcatcaccac catccacgag gatgaggtgg ccaagaccca gaaggcagag ggaggtggcc         60
gcctgcaggc tctgcgttcc ctgtctggca ccccaaagtc catgacctcc ctatccccac        120
gttcctctct ctcctccccc tccccacccc tgttccctct catggctgac ccctcctgg         180
ctggtgatgc cttcctcaac tccttggagt ttgaagaccc ggagctgagt gccactcttt        240
gtgaactgag ccttggtaac agcgcccagg aaagataccg gctggaggaa ccaggaacgg        300
agggcaagca gctgggccaa gctgtgaata cggcccaggg gtgtggcctg aaagtggcct        360
gtgtctcagc cgccgtatcg gacgagtcag tggctggaga cagtggtgtg tacgaggctt        420
ccgtgcagag actgggtgct tcagaagctg ctgcatttga cagtgacgaa tcggaagcag        480
tgggtgcgac ccgaattcag attgccctga gtatgatga aagaataag caatttgcaa        540
tattaatcat ccagctgagt aacctttctg tctgttgca gcaacaagac cagaaagtga        600
atatccgcgt ggctgtcctt ccttgctctg aaagcacaac ctgcctgttc cggacccggc        660
ctctggacgc ctcaagacac tctagtgttc aatgaggtgt tctgggtatc catgtcctat        720
ccaagccctt caccaagaag accttaagag tcgatgtctg taccaccgac aggagccatc        780
tgggaaaagt gcctgggagg cgcccaaatn agcctggcgg aggtctgccg gtctggggga        840
```

```
aaagtcgact cgcttggtac aactttctca gntacaaaat acttgaagaa acagagcagg      900
gagctcaagc cagtgggagt catggccctt gcttcagggc ntgccagcac ggacgctgtg      960
tcttgctctg ttggaacaga cagcagtgga gttggagaag aggcaggagg gcaggagcag     1020
cacacagaca ctggaagaca gctggtgagt gagcccgccc ttgggcccca ggagctgccc     1080
tgcctggacc taggcccagc aatgagatcc cccaatgcca gtgcaactaa gagaagggtt     1140
ccactgggaa ggctgagaac ccctctcctc atgggttctc tacaggcaaa aaggcaatgt     1200
aacctagtac gatggttccc agaattcctt tcgaatttgc catttcgttt cccatgaatc     1260
acctatgcta gttcacacct aatgttattc tttatcttga tatagtgaca tttattttgc     1320
```

        <210> 310
        <211> 1030
        <212> DNA
        <213> Homo Sapiens

        <400> 310

```
aacatttctg tgatcaacat tgcttactgc gtttctactg tcaacaaaat gagcccaaca       60
tgacaactca gaaaggacct gaaaacttac attatgatca gggttgtcag acatctcgaa      120
ccaaaatgac aggttcagca ccaccccctt ctccaacacc taacaaagag atgaagaaca      180
aagcagttct ttgcaaacct ttaacaatga caaaagctac ttactgtaaa cctcacatgc      240
agaccaaatc ttgtcagaca gatgatactt ggaggacaga atatgttcca gtgcctatcc      300
ctgtgcctgt gtatatccca gttcctatgc acatgtacag tcagaatatt cctgttccta      360
ctacagttcc tgttcctgtg ccagttcctg tttttctgcc tgctccattg gacagcagtg      420
agaagattcc tgcagcaatt gaggagctaa aaagcaaggt ttcttcagat gctcttgata      480
cagagttgct tacaatgacg gatatgatga gtgaagacga ggggaaaaca gagacaacca      540
acatcaacag tgtaattatt gaaacagata taattggttc agaccttttg aagaactctg      600
acccagagac acagtccagc atgcctgatg taccatatga accaagattt ggatatcgaa      660
atagattttc ccagagctgc tgaggagctt gatatggaaa atgaattttt attaccacct      720
gtttttggcg aagaatatga ggaacagccc aagacctcga tctaaaaaaa aagggagcca      780
agagaaangc tgtatcaagg ataccaagtc tcatgatgat aagtctgaca atttcagaat      840
gcagcnttcc tttcaaatta tacgtatggg cgtaaatgca tgggnaacac cgggtcaaaa      900
actaagnnac ttggatgaaa gatcntccgg gnaattagaa tgagttaaaa tccttccaaa      960
tccantnaag tttaaaagag ggtntaatcc cctcaaaacc anagctggng ccttaacaag     1020
ggggttaacc                                                             1030
```

        <210> 311
        <211> 546
        <212> DNA
        <213> Homo Sapiens

        <400> 311

```
gtttctgttt tcagaagaat tgggaaaact tctgtgaaag aagaatgcag aaacaaagaa       60
atatgaagtc ttgggagtat actgattaaa aagcacacat tgggagtgat agtaagaaga      120
gctaaaataa aaagcacaga aggaaaaaat aattgatttg tacataagct aaattataat      180
tcctttaaaa ttgtttataa caagatggaa tacagaatga cgattagatt tataacgtgt      240
gtttatatga atatgttgtt aacagtgaga tttctgatat ggtataacaa agtatatgat      300
tggaggacct gcaaaatgta tactcgggtt gtttttcttt ttaaaaatat tgtnaaacag      360
gcaagtgagg cttaacagca ttatggttca ttacngggtt tgggntatat accttttca      420
gcttctgtna tgagcaagtt gtgttttcaa tccccacttt caatgtctat gggaagggcg      480
cnttttgctn tgttttgttt tgtctttaaa ncnttttnaa acngggggaca canatggang      540
ccggcc                                                                 546
```

        <210> 312
        <211> 518
        <212> DNA
        <213> Homo Sapiens

```
    <400> 312
aaaattatta ntntaaaagg ggaaataggt nggattnccn tnttnagggc aataattntg    60
gggaggaatg gggtgggggct naccccctgna acccatnata aacctattct nctnagggtg   120
ctgggaaana attggggtct ggaataaanc tncaaatggg tcnccngctt cactaaaacc    180
ttggcaacta aggctcattt ttccaaaggg gttnctnang tcnnctccct ntnaaatcnt    240
tttattatnc cagggtggct gttgctaang cttggtgggg aaancangaa nttnctgctn    300
ctnctgctgc tgttgctgct gggcantnca agggaaaacc cccccgacaa actgggataa    360
ngtgacctgn ttgcncacnt ctngggccct attnccntac ctgncctgna aatncttccc    420
nctctgcccc ctttactnnt gccaannctt tcccccccgg ttaggataaa aattcccctn    480
aacctccnac ctttggttan cgggggtccc ctnccccc                            518


    <210> 313
    <211> 660
    <212> DNA
    <213> Homo Sapiens


    <400> 313
gccaagctgt gaatacggcc caggggtgtg gcctgaaagt ggcctgtgtc tcagccgccg    60
tatcggacga gtcagtggct ggagacagtg gtgtgtacga ggcttccgtg cagagactgg   120
gtgcttcaga agctgctgca tttgacagtg acgaatcgga agcagtgggt gcgacccgaa    180
ttcagattgc cctgaagtat gatgagaaga ataagcaatt tgcaatatta atcatccagc    240
tgagtaacct ttctgctctg ttgcagcaac aagaccagaa agtgaatatc cgcgtggctg    300
tccttccttg ctctgaaagc acaacctgcc tgttccggac ccggcctctg gacgcctcaa    360
gacactctag tgttcaatga ggtgttctgg gtatccatgt cctatccaag cccttcacca    420
agaagacctt aagagtcgat gtctgtacca ccgacaggag ccatctggga aaagtgcctg    480
ggaggcgccc aaatnagcct ggcggaggtc tgccggtctg ggggaaaagt cgactcgctn    540
gtacaacctt ctcagctaca aatacttgaa gaaacaagac aagggactc aagccantgg     600
gagtcatggg ccctggcctc angggctgcc aacaacgggc cccgtgttct ggccccgttt    660


    <210> 314
    <211> 516
    <212> DNA
    <213> Homo Sapiens


    <400> 314
gaaaggccac tttattgatg gagataaaac tgaatggagt tccccacagc cctcccctca    60
ctcatgttag tggcttnact gggcatctga gaccagcgtg gcctgtcacc cacatanact   120
aggctgctta gcccacccag cctatcacac tgcccgctcc acgttgggca gccacataaa    180
aacacgtcac agctcaanaa natccgtgga tgcacctctg aatcccccc aatggtttct     240
gtgcatttt ttaatattgt acaaaatatg ttaactagga aaaattagct gtactgtgac     300
aagtgcggga cgtcctatta ggattaccgt cccccaggca ttacttctta ttgcagtaag    360
acctctaaaa ggtggagctg tncaaaccaa aaaaaatcta aacgatttta agaanagcag    420
caactcaata ctgctttagt tcatttaaat tttctttccc aaaaatacac tcctaaatat    480
acaaactata caatcttatt attttaatgc tggttt                             516


    <210> 315
    <211> 677
    <212> DNA
    <213> Homo Sapiens


    <400> 315
tcagaatggc agattcagga gagagtttgt gccagaatag cattgaagaa cttgatggtg    60
tccttacatc catattcaaa catgagatac catattatga gttccagtct cttcaaactg    120
aaatttgttc tcaaaacaaa tatactcatt tcaaagaact tccaactctt ctccactgtg    180
cagcaaaatt tggcttaaag aacctggcta ttcatttgct tcaatgttca ggagcaacct    240
```

```
gggcatctaa gatgaaaaat atggagggtt cagaccccac acatattgct gaaaggcatg      300
gtcacaaaga actcaagaaa atcttcgaag acttttcaat ccaagaaatt gacataaata      360
atgagcaaga aaatgattat gaagaggata ttgcctcatt ttccacatat attccttcca      420
cacagaaccc agcatttcat catgaaagca ggaagacata cgggcaagag tgcaaatgga      480
gctgaggcaa atgaaatgga aggggaaggn aaacagaatg ggntcaggca tggagaccaa      540
acacagccca ctaagaggtt ggcagtgaga gttctgaaag accagtatga tgacttgtan      600
gtgttcaatc cctgggngct gattcaagaa aaataattcc acaagggtgc tattcntngt      660
ttttacaaga cntcctt                                                     677
```

```
        <210> 316
        <211> 843
        <212> DNA
        <213> Homo Sapiens

        <400> 316
agctttaaac attcaatta tttgtggcat ttgtacatga aaattatatg acgataacat      60
tgctttctat tctaagctag taaattgttt ctaagaaata atagattgat aaaattgcaa     120
gtcttaatac aaaggtaggt tatgaaaatg tatattaatt tgagatatag aaaagttttc     180
aaataataat gttttcaggg ttatatgcaa atagacacta aataagacaa ggtttctgca     240
aacatgatgt aacaataatg actggaactc tgaatgtgag aaattcagaa aatgaaccag     300
ctacttaaaa agcaaaaatg tgctaagtaa atttgtattt tcatggttat tctaaggaga     360
ggaggaataa tctgttgagg ttagtgccct caagcagacc ccataacttt gctacaccgc     420
atttaacttc tctgtgctgt tttcttttaa ttttcaaaat ggaaattagc tgtttcattg     480
gtgaagtgca ttgtaaaatg agagaatttt caaataatgc aattactcta tggtattctg     540
ttttaatagt aatataccca tatgaagcag gtataatgag aataaatttt gccaataaca     600
aattctgaaa tctgaanttt gtttctgctg tcatagtatg aattcgcttt aaagananca     660
ggcaatccaa attcaacttg ctcacctgaa aacaaaatgt ccgtanatcg tgagttcata     720
taataacctc cttaatgatc ttcctgcaca naaaccaaat tcttttcaac ttggggtcaa     780
caagaaccta ttgctgaatt ttcatataaa actatttcct gttggcagtt tcctacccccc     840
gga                                                                    843
```

```
        <210> 317
        <211> 835
        <212> DNA
        <213> Homo Sapiens

        <400> 317
acaagacacg cctgcgtagt ggtagtgccc tcctgcagtc ccagtctagt actgaggacc      60
cgaaggatga gcctgcggag ctaaaaccag attctgagga cttatcctcc cagtcctcag     120
cttcaaaggc atctcaggag gatgccaatg aaatcaagtc taaacgggat gaagaagaac     180
gagaacgaga aaggagggag aaggagaggg aacgagaaag agaacgggag aaggagaagg     240
agagagaacg agagaagcag aagctaaaag agtcagaaaa agagagagat tctgctaagg     300
ataaagagaa aggcaaacat gatgatggac ggaaaaagga agcagaaatt atcaaacaat     360
tgaagattga actcaagaag gcacaggaga gccaaaagga gatgaaacta ttgctggata     420
tgtaccgttc tgccccaaag gaacagagag acaaagttca gctgatggca gctgagaaga     480
agtctaaggc agagttggaa gatctaaggc aaagactcaa ggatctggaa gataaagaga     540
agaaagagaa caaagaaaat ggctgatgaa ggatgccttg aggaagatcc gggcagtgga     600
gggacaagat agaataccta cagaagaagc taagccatgg gcaagcagga agaagaagca     660
ctcctctctg aaatgggatg tcacaaggcc aagcctttga agacatgcag gagcaaaaat     720
atccgntttg attgcagcaa nttgccggga anaanggatg atgccaaatt ttcaaagccc     780
aatgtcaaaa gccgttttca agttccaaat ccagnttcat naagnttgcc ttaaa          835
```

```
        <210> 318
        <211> 582
        <212> DNA
```

<213> Homo Sapiens

<400> 318

```
caaactgaat cctgctttaa ttcaagcttg nggagaacaa agtcctacag aaacattcca      60
nanaattttc nggaaaagag ggatcacaac aaccctgtaa aaaggagact ganagtaatt     120
canagctcac caagttcncn ccgtatcaaa tttccanaat acccacaaga tttcttcacc     180
anctcantcc tgactcaacc tcttcaatct ttanttcatt agaagacaaa gggtcanatt     240
atttaaaatt antcnantcc caagaaattt aaagacttga agtagtagag cattcaaaac     300
ttaaataact ttaacaagaa agccanctga tcttaacaag ttacncngcn antaaatggg     360
aaatagactg aatcanccta nacataattt cattagggnt gcaaaccacc canggaaag      420
tagcacaatt ataccanttt gtaatccaca ttcacaagaa gtttgcnaca caaatgaaga     480
aaactttgng cccatagaca acttattttt taaaatatca ctccccaaaa gtagccatgt     540
ttccactttt ggtccccttt ccanatcaaa ataccaact tg                        582
```

<210> 319
<211> 827
<212> DNA
<213> Homo Sapiens

<400> 319

```
gaagccattc gatgttcatc agattggcca tttcagccat accttgtgtt tgatgttgga      60
gatggttcag aaagacggga taatgactca tatataaatg ttcaagaaat aaaactggtg     120
atggaaataa ttaagcttat taaagacaaa agaaaggatg ttagtttccg aaacattggc     180
ataataactc attacaaggc ccagaagacg atgattcaga aggatttgga caaagagttc     240
gatagaaaag gaccagcaga agtagacact gtggatgcat tccaggtcg gcagaaggat      300
tgtgttattg ttacgtgtgt cagagcaaat agcatccaag gttcaattgg attcctggca     360
agtttgcaga gattgaatgt caccatcaca cgagccaagt acagcctctt catcctcgga     420
catttgagga ccctgatgga aaaccagcat tggaatcagc tgattcagga tgctcagaag     480
cgtggtgcca ttattaagac ctgtgacaaa aactatagac atgatgcagt gaagattctg     540
aaactcaagc ctgtgctgca gagaagtctc actcancctc ctaccatagc cccaaagggg     600
tccaaacccc aagggtggnt tgcccaagca ncaagctaga cagttggatt ttgccaaaga     660
caatcctggt tgccggcttc tccaatacca aaacaaccct ccggactccc aagggaaaat     720
tacncctaac ggtttacctt caaagggacc ctgaaaagac ccncctggtt caatgaccaa     780
cnttcanggg ncccacgaan tggctgaaaa agggatgggc aatttag                   827
```

<210> 320
<211> 598
<212> DNA
<213> Homo Sapiens

<400> 320

```
aaattttaaa aggattttgt tatttgctat acaaatatac atttcaactt ttacaacatt      60
cactccagtc tgacctcctt gtctatagaa gactaagaga tcaacatttc cagtctctga     120
cttcaaggac attattacgg atacacaatg ccctctgaaa gcttttgcaa atgacagaaa     180
atactgaaga tgaccagagg ctcaggtgtt aaggatgcat tttccatgtt ttccaacagc     240
acacaaactc cttacaaaaa acaagcttat ctagatggtc ccacgagctg gtcatcttca     300
gtttacaata tgctgtggct gctggcccat gtcactgggc tttcctataa aagctttctt     360
ttcttgggaa ctgctgtcct cctgctccaa gtgtcctctt gtcccaccta gagttcctcc     420
tggtgtgatg ggtctcggaa ccacacttct cctgctcccc ttcactgaaa gccctggcct     480
ctctcctgtg acagagctcc tcttccgggt catcacattt gctctgacac gtgggnagcc     540
tcggggaact gggcanctgg gaggntccgt ttttttttgg gaaggtttgt tggctgcc      598
```

<210> 321
<211> 808
<212> DNA
```

<213> Homo Sapiens

<400> 321

```
gcatcaccac catccacgag gatgaggtgg ccaagaccca gaaggcagag ggaggtggcc    60
gcctgcaggc tctgcgttcc ctgtctggca ccccaaagtc catgacctcc ctatccccac   120
gttcctctct ctcctccccc tccccaccct gttcccctct catggctgac cccctcctgg   180
ctggtgatgc cttcctcaac tccttggagt ttgaagaccc ggagctgagt gccactcttt   240
gtgaactgag ccttggtaac agcgcccagg aaagataccg gctggaggaa ccaggaacgg   300
agggcaagca gctgggccaa gctgtgaata cggcccaggg gtgtggcctg aaagtggcct   360
gtgtctcagc cgccgtatcg gacgagtcag tggctggaga cagtggtgtg tacgaggctt   420
ccgtgcagag actgggtgct tcagaagctg ctgcatttga cagtgacgaa tcggaagcag   480
tgggtgcgac ccgaattcag attgccctga agtatgatga gaagaataag caatttgcaa   540
tattaatcat ccagctgagt aacctttctg ctctgttgca ncaacaaaga ccagaaagtg   600
aatatccgcg tggctgtcct tccttgctct gaaaagcaca aactgcctgt tccgggaccc   660
gggctctgga cgcctcaaac actccaagtg ttcaatgaag gtgttctggg tatccatggt   720
ccctatccaa acccnttaac aagaaagacc tttaaanaag tccaatgtcc ngtnaccaac   780
cggacaaggg agccaatctt gggaaaaa                                      808
```

<210> 322
<211> 629
<212> DNA
<213> Homo Sapiens

<400> 322

```
agcaaaataa atgtcactat atcaagataa agaataacat taggtgtgaa ctagcatagg    60
tgattcatgg gaaacgaaat ggcaaattcg aaaggaattc tgggaaccat cgtactaggt   120
tacattgcct ttttgcctgt agagaaccca tgaggagagg ggttctcagc cttcccagtg   180
gaacccttct cttagttgca ctggcattgg gggatctcat tgctgggcct aggtccaggc   240
agggcagctc ctggggccca agggcgggct cactcaccag ctgtcttcca gtgtctgtgt   300
gctgctcctg ccctcctgcc tcttctccaa ctccactgct gtctgttcca acagagcaag   360
acacagcgtc cgtgctggca ngccctgaag caagggccat gactcccact ggcttgagct   420
ccctgctctg tttcttcaag tattttgtan ctgagaaagt tgtaccaanc gaatcnacct   480
ctccccaaga ccgggaagac ctcccgccaa ggctgatttg gggcgcctcc caagcactct   540
tccaaaatgg ctcccgtccg ttgggacana catccnactt tttaangcct tccggggnaa   600
agggctgggn taaggacatt gggtncccc                                     629
```

<210> 323
<211> 798
<212> DNA
<213> Homo Sapiens

<400> 323

```
aacatttctg tgatcaacat tgcttactgc gtttctactg tcaacaaaat gagcccaaca    60
tgacaactca gaaaggacct gaaaacttac attatgatca gggttgtcag acatctcgaa   120
ccaaaatgac aggttcagca ccaccccctt ctccaacacc taacaaagag atgaagaaca   180
aagcagttct ttgcaaacct ttaacaatga caaaagctac ttactgtaaa cctcacatgc   240
agaccaaatc ttgtcagaca gatgatactt ggaggacaga atatgttcca gtgcctatcc   300
ctgtgcctgt gtatatccca gttcctatgc acatgtacag tcagaatatt cctgttccta   360
ctacagttcc tgttcctgtg ccagttcctg tttttctgcc tgctccattg gacagcagtg   420
agaagattcc tgcagcaatt gaggagctaa aaagcaaggt ttcttcagat gctcttgata   480
cagagttgct tacaatgacg gatatgatga gtgaagacga ggggaaaaca gagacaacca   540
acatcaacag tgtaattatt gaaacagata taattggttc agaccttttg aagaactctg   600
acccagagac acagtccagc atgcctgatg taccatatga accagatttg gatatcgaan   660
tagattttcc cagagctgct gaaggagcct tgatatggga aaatgaattt ttattaccaa   720
ccngtttttg ggcgaaagaa tatgaaggaa caagcccaaa cctcgattct aaaaaaaagg   780
```

ggagccaagg agaaaagg   798

```
        <210> 324
        <211> 754
        <212> DNA
        <213> Homo Sapiens
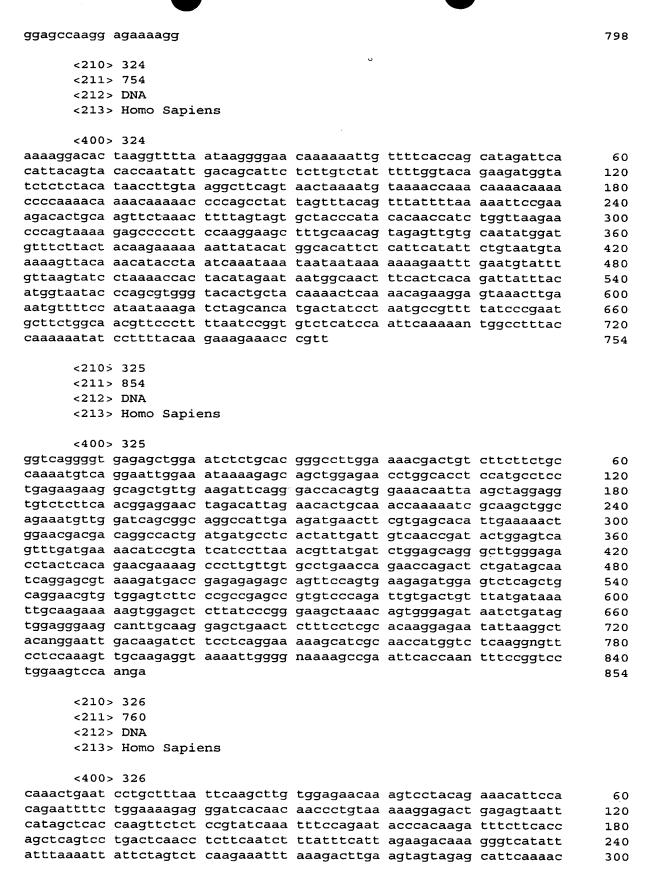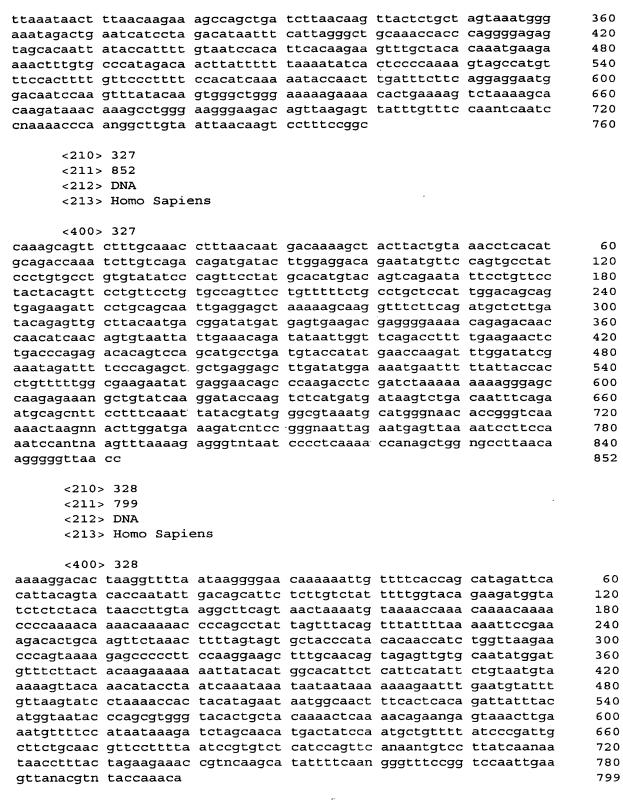
        <400> 324
aaaaggacac taaggtttta ataaggggaa caaaaaattg ttttcaccag catagattca     60
cattacagta caccaatatt gacagcattc tcttgtctat ttttggtaca gaagatggta    120
tctctctaca taaccttgta aggcttcagt aactaaaatg taaaaccaaa caaaacaaaa    180
ccccaaaaca aaacaaaaac cccagcctat tagtttacag tttattttaa aaattccgaa    240
agacactgca agttctaaac ttttagtagt gctacccata cacaaccatc tggttaagaa    300
cccagtaaaa gagccccctt ccaaggaagc tttgcaacag tagagttgtg caatatggat    360
gtttcttact acaagaaaaa aattatacat ggcacattct cattcatatt ctgtaatgta    420
aaaagttaca aacataccta atcaaataaa taataataaa aaagaattt gaatgtattt     480
gttaagtatc ctaaaaccac tacatagaat aatggcaact ttcactcaca gattatttac    540
atggtaatac ccagcgtggg tacactgcta caaaactcaa aacagaagga gtaaacttga    600
aatgttttcc ataataaaga tctagcanca tgactatcct aatgccgttt tatcccgaat    660
gcttctggca acgttccctt ttaatccggt gtctcatcca attcaaaaan tggcctttac    720
caaaaaatat cctttacaa gaaagaaacc cgtt                                 754

        <210> 325
        <211> 854
        <212> DNA
        <213> Homo Sapiens

        <400> 325
ggtcaggggt gagagctgga atctctgcac gggccttgga aaacgactgt cttcttctgc     60
caaaatgtca ggaattggaa ataaaagagc agctggagaa cctggcacct ccatgcctcc    120
tgagaagaag gcagctgttg aagattcagg gaccacagtg gaaacaatta agctaggagg    180
tgtctcttca acggaggaac tagacattag aacactgcaa accaaaaatc gcaagctggc    240
agaaatgttg gatcagcggc aggccattga agatgaactt cgtgagcaca ttgaaaaact    300
ggaacgacga caggccactg atgatgcctc actattgatt gtcaaccgat actggagtca    360
gtttgatgaa aacatccgta tcatccttaa acgttatgat ctggagcagg gcttgggaga    420
cctactcaca gaacgaaaag cccttgttgt gcctgaacca gaaccagact ctgatagcaa    480
tcaggagcgt aaagatgacc gagagagagc agttccagtg aagagatgga gtctcagctg    540
caggaacgtg tggagtcttc ccgccgagcc gtgtcccaga ttgtgactgt ttatgataaa    600
ttgcaagaaa aagtggagct cttatcccgg gaagctaaac agtgggagat aatctgatag    660
tggagggaag canttgcaag gagctgaact ctttcctcgc acaaggagaa tattaaggct    720
acanggaatt gacaagatct tcctcaggaa aaagcatcgc aaccatggtc tcaaggngtt    780
cctccaaagt tgcaagaggt aaaattgggg naaaagccga attcaccaan tttccggtcc    840
tggaagtcca anga                                                      854

        <210> 326
        <211> 760
        <212> DNA
        <213> Homo Sapiens

        <400> 326
caaactgaat cctgctttaa ttcaagcttg tggagaacaa agtcctacag aaacattcca     60
cagaattttc tggaaaagag ggatcacaac aaccctgtaa aaaggagact gagagtaatt    120
catagctcac caagttctct ccgtatcaaa tttccagaat acccacaaga tttcttcacc    180
agctcagtcc tgactcaacc tcttcaatct ttatttcatt agaagacaaa gggtcatatt    240
atttaaaatt attctagtct caagaaattt aaagacttga agtagtagag cattcaaaac    300
```

```
ttaaataact ttaacaagaa agccagctga tcttaacaag ttactctgct agtaaatggg    360
aaatagactg aatcatccta gacataattt cattagggct gcaaaccacc caggggagag    420
tagcacaatt ataccatttt gtaatccaca ttcacaagaa gtttgctaca caaatgaaga    480
aaactttgtg cccatagaca acttattttt taaaatatca ctccccaaaa gtagccatgt    540
ttccactttt gttccctttt ccacatcaaa aataccaact tgatttcttc aggaggaatg    600
gacaatccaa gtttatacaa gtgggctggg aaaaagaaaa cactgaaaag tctaaaagca    660
caagataaac aaagcctggg aagggaagac agttaagagt tatttgtttc caantcaatc    720
cnaaaaccca anggcttgta attaacaagt cctttccggc                          760
```

```
        <210> 327
        <211> 852
        <212> DNA
        <213> Homo Sapiens

        <400> 327
caaagcagtt ctttgcaaac ctttaacaat gacaaaagct acttactgta aacctcacat     60
gcagaccaaa tcttgtcaga cagatgatac ttggaggaca gaatatgttc cagtgcctat    120
ccctgtgcct gtgtatatcc cagttcctat gcacatgtac agtcagaata ttcctgttcc    180
tactacagtt cctgttcctg tgccagttcc tgttttctg cctgctccat tggacagcag      240
tgagaagatt cctgcagcaa ttgaggagct aaaaagcaag gtttcttcag atgctcttga    300
tacagagttg cttacaatga cggatatgat gagtgaagac gaggggaaaa cagagacaac    360
caacatcaac agtgtaatta ttgaaacaga tataattggt tcagaccttt tgaagaactc    420
tgacccagag acacagtcca gcatgcctga tgtaccatat gaaccaagat ttggatatcg    480
aaatagattt tcccagagct. gctgaggagc ttgatatgga aaatgaattt ttattaccac    540
ctgttttgg cgaagaatat gaggaacagc ccaagacctc gatctaaaaa aaaagggagc      600
caagagaaan gctgtatcaa ggataccaag tctcatgatg ataagtctga caatttcaga    660
atgcagcntt cctttcaaat tatacgtatg ggcgtaaatg catgggnaac accgggtcaa    720
aaactaagnn acttggatga aagatcntcc ·gggnaattag aatgagttaa aatccttcca    780
aatccantna agtttaaaag agggtntaat cccctcaaaa· ccanagctgg ngccttaaca    840
aggggttaa cc                                                          852
```

```
        <210> 328
        <211> 799
        <212> DNA
        <213> Homo Sapiens

        <400> 328
aaaaggacac taaggtttta ataaggggaa caaaaaattg ttttcaccag catagattca     60
cattacagta caccaatatt gacagcattc tcttgtctat ttttggtaca gaagatggta    120
tctctctaca taaccttgta aggcttcagt aactaaaatg taaaaccaaa caaaacaaaa    180
ccccaaaaca aaacaaaaac cccagcctat tagtttacag tttattttaa aaattccgaa    240
agacactgca agttctaaac ttttagtagt gctacccata cacaaccatc tggttaagaa    300
cccagtaaaa gagccccctt ccaaggaagc tttgcaacag tagagttgtg caatatggat    360
gtttcttact acaagaaaaa aattatacat ggcacattct cattcatatt ctgtaatgta    420
aaaagttaca aacataccta atcaaataaa taataataaa aaaagaattt gaatgtattt    480
gttaagtatc ctaaaccac tacatagaat aatggcaact ttcactcaca gattatttac      540
atggtaatac ccagcgtggg tacactgcta caaaactcaa aacagaanga gtaaacttga    600
aatgttttcc ataataaaga tctagcaaca tgactatcca atgctgtttt atcccgattg    660
cttctgcaac gttccttta atccgtgtct catccagttc anaantgtcc ttatcaanaa    720
taacctttac tagaagaaac cgtncaagca tattttcaan gggtttccgg tccaattgaa    780
gttanacgtn taccaaaca                                                  799
```

```
        <210> 329
        <211> 978
        <212> DNA
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<213> Homo Sapiens

<400> 329

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ggaagatggc ggcggccgtt ccacagcggg cgtggaccgt ggagcagctg cgcagtgagc    60
agctgcccaa gaaggacatt atcaagtttc tgcaggaaca cggttcanat tcgtttcttg   120
cagaacataa attattagga aacattaaaa atgtggccaa gacagctaac aaggaccact   180
tggttacagc ctataaccat ctttttgaaa actaagcgtt ttaagggtac tgaaagtata   240
agtaaagtgt ctgagcaagt aaaaaatgtg aagcttaaat gaagataaac ccaaagaaac   300
caagtctgaa gagaccctgg atgagggtcc cccaaaatat actaaatcct gttctgaaaa   360
agggagataa aaccaacttt cccaaaaagg gagatgttgt tcactgctgg tatacaggaa   420
cactacaaga tgggactgtt tttgatacta atattcaaac aagtgcaaag aagaagaaaa   480
atgccaagcc tttaagtttt aaggtcggag taggcaaagt tatcagagga tgggatgaag   540
ctctcttgac tatgagtaaa ggagaaaagg ctcgactgga gattgaacca gaatgggctt   600
acggaaagaa aggacagcct gatgccaaaa ttccnccaaa tgcaaaactc acttttgaag   660
tggaattagt ggatattgat tgaaatagca gtgcttcagc tctaaggata ttagcaacaa   720
tgataaaact tggccttgaa gaaatttacn caactagtta gaacttgtta ctattgtaaa   780
ggaagagtca actggaaaat tcaaggagtt aataaaattt gtttacttgg tcccagcttt   840
tgagagataa atcccttatg aatccctggt ctaaaatact ttcctacagc tgtgtaaaat   900
actggtcaag gagaactttt tccttttacc tcatgttgta aacttaagtg gctcaataaa   960
aattgatccn ctgtcttg                                                 978
```

<210> 330
<211> 1017
<212> DNA
<213> Homo Sapiens

<400> 330

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cgatcggcgg agctcccacc tccgcttaca gctcgctgcc gccgtcctgc cccgcgcccc    60
caggagacct ggaccagacc acgatgtgga aacgctggct cgcgctcgcg ctcgcgctgg   120
tggcggtcgc ctgggtccgc gccgaggaag agctaaggag caaatccaag atctgtgcca   180
atgtgttttg tggagccggc cgggaatgtg cagtcacaga gaaaggggaa cccacctgtc   240
tctgcattga gcaatgcaaa cctcacaaga ggcctgtgtg tggcagtaat ggcaagacct   300
acctcaacca ctgtgaactg catcgagatg cctgcctcac tggatccaaa atccaggttg   360
attacgatgg acactgcaaa gagaagaaat ccgtaagtcc atctgccagc ccagttgttt   420
gctatcagtc caaccgtgat gagctccgac gtcgcatcat ccagtggctg gaagctgaga   480
tcattccaga tggctggttc tctaaaggca gcaactacag tgaaatccta gacaagtatt   540
ttaagaactt tgataatggt gattctcgcc tggactccag tgaattcctg aagtttgtgg   600
aacagaatga aactgccatc aatattacaa cgtatccaga ccaggagaac aacaagttgc   660
ttaggggact ctgtgttgat gctctcattg aactgtctga tgaaaatgct gattggaaac   720
tcagcttcca agagtttctc aagtgcctca acccatcttt caaccctcct gagaagaagt   780
gtgccctgga ggatgaaacg tatgcagatg gagctgagac cgangtggac tgtaacccgc   840
tgtgtctgtg cctgtggaaa ttgggtctgt cagccatgac ctgtgacnga aagaatcaga   900
aggggcccca gacccagacn gaggangaga tgancngata tgtccaggag ctccaaagct   960
taggaaacag cttgaaaaga nccagagagg gagcccccaa agagattatg aggaggc     1017
```

<210> 331
<211> 799
<212> DNA
<213> Homo Sapiens

<400> 331

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cccagaaaga tcatcacagt ttctgtaaaa gaagatgtac acctgaaaaa ggcagaaaat    60
gcctggaagc caagccaaaa acgagacagc caagccgatg atcccgaaaa cattaaaacc   120
caggagcttt ttagaaaagt tcgaagtatc ttaaataaat tgacaccaca gatgttcaat   180
caactgatga agcaagtgtc aggacttact gttgacacag aggagcggct gaaaggagtt   240
```

```
attgacctgg tctttgagaa ggctattgat gaacccagtt tctctgtggc ttacgcaaac    300
atgtgtcgat gtctagtaac gctgaaagta cccatggcag acaagcctgg taacacagtg    360
aatttccgga agctgctact gaaccgttgc cagaaggagt ttgaaaaaga taaagcagat    420
gatgatgtct ttgagaagaa gcagaaagaa cttgaggctg ccagtgctcc agaggagagg    480
acaaggcttc atgatgaact ggaagaagcc aaggacaaag cccggcggag atccattggc    540
aacatcaagt ttattggaga actctttaaa ctcaaaatgc tgactgaagc catcatgcat    600
gactgtgtgg tgaagctgct aaagaaccat gatgaagaat ccctggagtg cctgtgtcgc    660
ctgctcacca ccattggcaa agacttggac tttgaaaaaa gccaaagcca cgtatggacc    720
cagtacttta atcagatgga gaaaattgtg aaaggaaaga aaaacctcat ctaggatcgg    780
gtcatgcttt caggaggtt                                                 799
```

```
        <210> 332
        <211> 881
        <212> DNA
        <213> Homo Sapiens
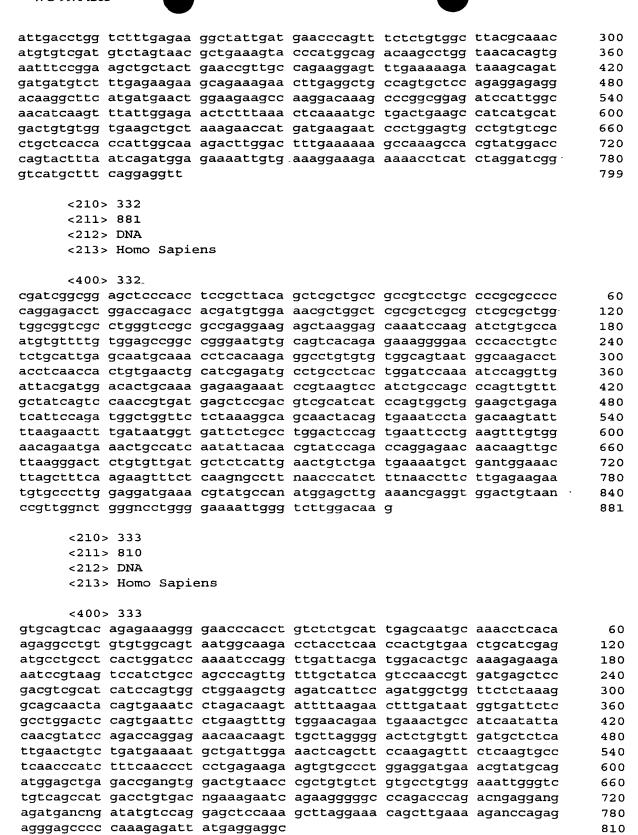
        <400> 332
cgatcggcgg agctcccacc tccgcttaca gctcgctgcc gccgtcctgc cccgcgcccc     60
caggagacct ggaccagacc acgatgtgga aacgctggct cgcgctcgcg ctcgcgctgg    120
tggcggtcgc ctgggtccgc gccgaggaag agctaaggag caaatccaag atctgtgcca    180
atgtgttttg tggagccggc cgggaatgtg cagtcacaga gaaagggaa cccacctgtc     240
tctgcattga gcaatgcaaa cctcacaaga ggcctgtgtg tggcagtaat ggcaagacct    300
acctcaacca ctgtgaactg catcgagatg cctgcctcac tggatccaaa tccaggttg     360
attacgatgg acactgcaaa gagaagaaat ccgtaagtcc atctgccagc ccagttgttt    420
gctatcagtc caaccgtgat gagctccgac gtcgcatcat ccagtggctg gaagctgaga    480
tcattccaga tggctggttc tctaaaggca gcaactacag tgaaatccta gacaagtatt    540
ttaagaactt tgataatggt gattctcgcc tggactccag tgaattcctg aagtttgtgg    600
aacagaatga aactgccatc aatattacaa cgtatccaga ccaggagaac aacaagttgc    660
ttaagggact ctgtgttgat gctctcattg aactgtctga tgaaaatgct gantggaaac    720
ttagcttcca agaagtttct caagngcctt naacccatct ttnaaccttc ttgagaagaa    780
tgtgcccttg gaggatgaaa cgtatgccan atggagcttg aaancgaggt ggactgtaan    840
ccgttggnct gggncctggg gaaaattggg tcttggacaa g                        881
```

```
        <210> 333
        <211> 810
        <212> DNA
        <213> Homo Sapiens

        <400> 333
gtgcagtcac agagaaaggg gaacccacct gtctctgcat tgagcaatgc aaacctcaca     60
agaggcctgt gtgtggcagt aatggcaaga cctacctcaa ccactgtgaa ctgcatcgag    120
atgcctgcct cactggatcc aaaatccagg ttgattacga tggacactgc aaagagaaga    180
aatccgtaag tccatctgcc agcccagttg tttgctatca gtccaaccgt gatgagctcc    240
gacgtcgcat catccagtgg ctggaagctg agatcattcc agatggctgg ttctctaaag    300
gcagcaacta cagtgaaatc ctagacaagt attttaagaa ctttgataat ggtgattctc    360
gcctggactc cagtgaattc ctgaagtttg tggaacagaa tgaaactgcc atcaatatta    420
caacgtatcc agaccaggag aacaacaagt tgcttagggg actctgtgtt gatgctctca    480
ttgaactgtc tgatgaaaat gctgattgga aactcagctt ccaagagttt ctcaagtgcc    540
tcaacccatc tttcaaccct cctgagaaga gtgtgccct ggaggatgaa acgtatgcag    600
atggagctga ccgangtg gactgtaacc cgctgtgtct gtgcctgtgg aaattgggtc    660
tgtcagccat gacctgtgac ngaaagaatc agaaggggc ccagacccag acngaggang    720
agatgancng atatgtccag gagctccaaa gcttaggaaa cagcttgaaa aganccagag    780
agggagcccc caaagagatt atgaggaggc                                     810
```

```
        <210> 334
```

```
        <211> 808
        <212> DNA
        <213> Homo Sapiens

        <400> 334
cactttaatt tctttattca tcaatagtat ccgaaaagga agaatcagga gttacaaaaa       60
caagttaaat gcaatataga agcctactaa atacaaatac aagttcacaa acacatatgc      120
aacagaaact tgtttagatt gtttcttgaa gtttgactac ttaaaaacat aggtgtaaag      180
gaaagacatt cagactggtc cacgtgggct tgttagcagg cagaggaacc ctgctttcca      240
aaaactgata tagtccagag tcacggcatg tgggaatgtt tccatggaca ctggatctta      300
acagatgcta tagtgtttac aaaactacac acacagagaa agcccaagga agcctgcagg      360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgtttg      420
ctccatgcaa aactttatgg aagactcccc agactaggct atttagcagc ttccatgaat      480
ggtcctcaga tcatgtgatt ctacggcata gacgacagct gccctattta cacagaagct      540
gcagaactca agaggaatgt ggatttgctc ttgggaagtt caatgttgca gggtaaagta      600
agtcttggat gataaccatg ttctaaatga ctagtgaaga gacactgngg tttcttgctt      660
ttaacaaatt ggnggactct tggcccttct tcccatagng tccaagggct ggtaaaacct      720
ttggattaag gcgtgnctgc ttgggagttc ttccaaggca ctttggacca gggaacctgc      780
atttcaaact ggaccaagtg gaggtttg                                        808


        <210> 335
        <211> 758
        <212> DNA
        <213> Homo Sapiens

        <400> 335
gcaattgggt atctcgaaga gcagatcaag ggcctaaaac tatcgaacag attcacaaag       60
aggctaaaat agaagaacaa gaagagcaaa ggaaggtcca gcaactcatg accaaagaga      120
agagaagacc aggtgtccag agagtggacg aaggtgggtg gaacactgta caaggggcca      180
agaacagtcg ggtactggac ccctcaaaat tcctaaaaat cactaagcct acaattgatg      240
aaaaaattca gctggtacct aaagcacagc taggcagctg gggaaaaggc agcagtggtg      300
gagcaaaggc aagtgagact gatgccttac ggtcaagtgc ttccagttta aacagattct      360
ctgccctgca acctccagca ccctcagggt ccacgccatc cacgcctgta gagtttgatt      420
cccgaaggac cttaactagt cgtggaagta tgggcaggga gaagaatgac aagccccttc      480
catctgcaac agctcggcca aatactttca tgaggggtgg cagcagtaaa gacctgctag      540
acaatcagtc tcaagaagag cagcggagag agatgctgga gaccgtgaag cagctnacan      600
gaggtgtgga tgtggagagg aacagccttg agctgaaccg aaataaacaa gggagtcagc      660
aaaaccccga aanttcagca atgtcagctt attgacaagg gttgattatc agaagaggac      720
tgganaggaa gtccaaatct atcatggtna atttttttc                            758


        <210> 336
        <211> 785
        <212> DNA
        <213> Homo Sapiens
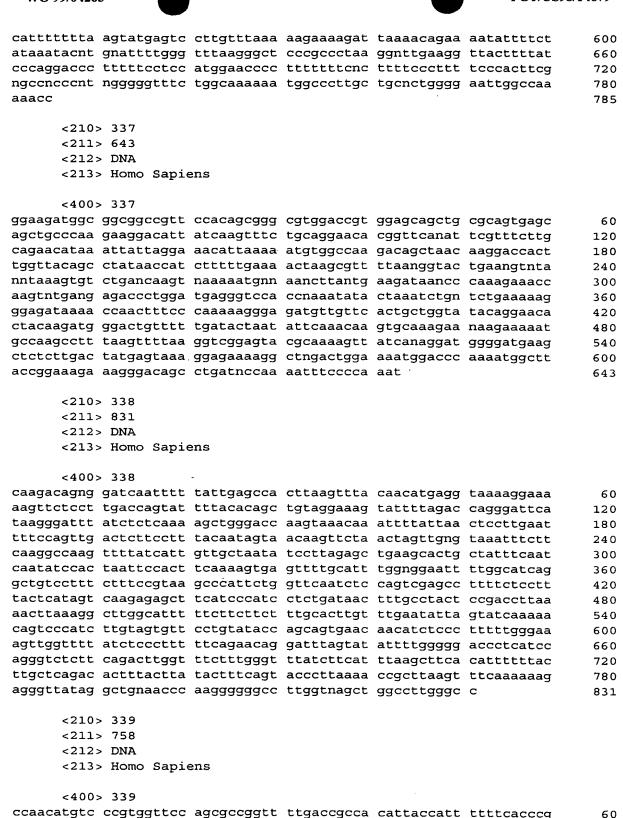
        <400> 336
aaacttgcaa tgtttgtctt tattttgttc tttatatttt caaagtgaaa agaaatagta       60
ctgagtcaat ttcttttgt ttttttaaat atttgttcta tgtatttaca agccttaaag      120
ttgctctaaa gatttcaaga gtattaagag tactttctc agggtagcac ttttttttt      180
tttaaacaat tcttggagtt ctgtggtcca cagcatttcc ttctgtttca atgttatgta      240
cgttttgatt actattgnga ttttttaaat tttctgaagc aagctgagag gcaggcagaa      300
agatttgatg ccaaaaaaaa aaaaatcttt cttaccttgt tcaccccaaa ctttctcaaa      360
tctggactaa atgctatacc ttaaaacaaa catgaggngc atcttgaagg ggagggaaat      420
ttatttctct gcttttctat tatacaagtt gtttacagaa actgcaaatt aaaaaattac      480
actggcattt gcagtcctta aaataaatta aaagttctca actttttttt ttttgctaaa      540
```

```
cattttttta agtatgagtc cttgtttaaa aagaaaagat taaaacagaa aatattttct     600
ataaatacnt gnattttggg tttaagggct cccgccctaa ggnttgaagg ttacttttat     660
cccaggaccc tttttcctcc atggaacccc tttttttcnc ttttcccttt tcccacttcg     720
ngccnccnt nggggttttc tggcaaaaaa tggcccttgc tgcnctgggg aattggccaa      780
aaacc                                                                 785
```

```
        <210> 337
        <211> 643
        <212> DNA
        <213> Homo Sapiens

        <400> 337
ggaagatggc ggcggccgtt ccacagcggg cgtggaccgt ggagcagctg cgcagtgagc      60
agctgcccaa gaaggacatt atcaagtttc tgcaggaaca cggttcanat tcgtttcttg     120
cagaacataa attattagga aacattaaaa atgtggccaa gacagctaac aaggaccact     180
tggttacagc ctataaccat ctttttgaaa actaagcgtt ttaanggtac tgaangtnta     240
nntaaagtgt ctgancaagt naaaaatgnn aancttantg aagataancc caaagaaacc     300
aagtntgang agaccctgga tgagggtcca ccnaaatata ctaaatctgn tctgaaaaag     360
ggagataaaa ccaactttcc caaaaaggga gatgttgttc actgctggta tacaggaaca     420
ctacaagatg ggactgtttt tgatactaat attcaaacaa gtgcaaagaa naagaaaaat     480
gccaagcctt taagtttaa ggtcggagta cgcaaaagtt atcanaggat ggggatgaag      540
ctctcttgac tatgagtaaa ggagaaaagg ctngactgga aaatggaccc aaaatggctt     600
accggaaaga aagggacagc ctgatnccaa aatttcccca aat                       643
```

```
        <210> 338
        <211> 831
        <212> DNA
        <213> Homo Sapiens

        <400> 338
caagacagng gatcaatttt tattgagcca cttaagttta caacatgagg taaaaggaaa      60
aagttctcct tgaccagtat tttacacagc tgtaggaaag tattttagac cagggattca     120
taagggattt atctctcaaa agctgggacc aagtaaacaa attttattaa ctccttgaat     180
tttccagttg actcttcctt tacaatagta acaagttcta actagttgng taaatttctt     240
caaggccaag ttttatcatt gttgctaata tccttagagc tgaagcactg ctatttcaat     300
caatatccac taattccact tcaaaagtga gttttgcatt tggnggaatt ttggcatcag     360
gctgtccttt cttttcgtaa gcccattctg gttcaatctc cagtcgagcc ttttctcctt     420
tactcatagt caagagagct tcatcccatc ctctgataac tttgcctact ccgaccttaa     480
aacttaaagg cttggcattt ttcttcttct ttgcacttgt ttgaatatta gtatcaaaaa     540
cagtcccatc ttgtagtgtt cctgtatacc agcagtgaac aacatctccc tttttgggaa     600
agttggtttt atctcccttt ttcagaacag gatttagtat attttggggg accctcatcc     660
agggtctctt cagacttggt ttctttgggt ttatcttcat ttaagcttca catttttac      720
ttgctcagac actttactta tactttcagt acccttaaaa ccgcttaagt ttcaaaaaag     780
agggttatag gctgnaaccc aagggggggcc ttggtnagct ggccttgggc c             831
```

```
        <210> 339
        <211> 758
        <212> DNA
        <213> Homo Sapiens

        <400> 339
ccaacatgtc ccgtggttcc agcgccggtt ttgaccgcca cattaccatt ttttcacccg      60
agggtcggct ctaccaagta gaatatgctt ttaaggctat taaccagggt ggccttacat     120
cagtagctgt cagagggaaa gactgtgcag taattgtcac acagaagaaa gtacctgaca     180
aattattgga ttccagcaca gtgactcact tattcaagat aactgaaaac attggttgtg     240
```

```
tgatgaccgg aatgacagct gacagcagat cccaggtaca gagggcacgc tatgaggcag    300
ctaactggaa atacaagtat ggctatgaga ttcctgtgga catgctgtgt aaaagaattg    360
ccgatatttc tcaggtctac acacagaatg ctgaaatgag gcctcttggt tgttgtatga    420
ttttaattgg tatagatgaa gagcaaggcc ctcaggtata taagtgtgat cctgcaggtt    480
actactgtgg gtttaaagcc actgcagcgg gagttaaaca aactgagtca accagcttcc    540
ttgaaaaaaa agtgaagaag aaatttgatt ggacatttga acagacagtg gaaactgcaa    600
ttacatgcct gtctactggt ctatcaattg atttcaaacc ttcagaaata gaagttggag    660
tagtgacagt tgaaaatcct aaattcagga ttcttacngg aagcagagat tgatgcttac    720
cttgtgnttt agcngagagg agacttaacc attggccg                            758
```

```
        <210> 340
        <211> 840
        <212> DNA
        <213> Homo Sapiens

        <400> 340
ccaaaagcct tgttttattt atatagagtc ctaaccactt cggtggtagg aggagtggga     60
gaggctcctt tttcaatcca gggacctcca tgatgttggt ttgttgttac caaacacaca    120
ggtaagtggc atcacggatc tggtaaacta acgacaatgt ttagtctctc tctgctagag    180
caacaaggtg agcatcaatc tctgcttctg taanaatcct gaatttagga ttttcaactg    240
tcactactcc aacttctatt tctgaaggtt tgaaatcaat tgatagaaca gtagacaggc    300
atgtaattgc agtttccact gtctgttcaa atgtccaatc aaatttcttc ttcacttttt    360
tttcaaggaa gctggttgac tcagtttgtt taactcccgc tgcagtggct ttaaacccac    420
agtagtaacc tgcaggatca cacttatata cctgagggcc ttgctcttca tctataccaa    480
ttaaaatcat acaacaacca agaggcctca tttcagcatt ctgtgtgtag acctgagaaa    540
tatcggcaat tcttttacac agcatgtcca caggaatctc atagccatac ttggatttcc    600
agttagctgc ctcatagccg tgcccttctg tacctgggat ctgctgtcag ctgcattccg    660
gtcatcacac aaccaatggt ttcagttatc ttggaataag tgaggtcact gngctggaat    720
nccaataatt tggcaggnac ctttctttct ggggngacaa ttactggccc agtcttttcc    780
tttggacagn tactggaggt aagggccacc ctgggttaat agccctttaa aggcntaatc    840
```

```
        <210> 341
        <211> 793
        <212> DNA
        <213> Homo Sapiens

        <400> 341
cactttaatt tctttattca tnaatagtat ccgaaaagga agaatcagga gttacaaaaa     60
caagttaaat gcaatataga agcctactaa atacaaatac aagttcacaa acacatatgc    120
aacagaaact tgtttanatt gtttcttgaa gtttgactac ttaaaaacat aggngtaaag    180
gaaagacatt canactggtc cncgnggget tgntagcagg cagaggaacc ctgctttcca    240
aaaactgnta tagtccanan tcncggcatg ngggaatgnt tccatggacn ctggatctta    300
acagatgcta tagggtttac aaaactacnc acncagagaa agcccaagga agcctgcagg    360
ctaagcccta tgcttttaga gggctgaagg aaccaaacct agtttaatcc tgtttgnttg    420
ctccatgcaa aacttttugg aaactccccc agactaggct ttttancagn nttccattga    480
atgggcnnc aaancnttgg gaattttacg gntnaaancn aaagntngcc ttntttnccc    540
ccgaaagctt tgaaaaactt ttcagngggn atngggaat ttggnttntt ggggnngttc    600
aattgttncc ngggtaaaaa ganacccttg gggaggnaaa ccctgngtt tnaannggcc    660
ttaggggaaa naacccntgg gggtntcntt ggnnttttaa caaaattggg gggncntttt    720
ggnccttcct cccaaaaggg ggcccanggn ctgnggaaaa aacctttgg antaagggg     780
gnccnnctt gga                                                        793
```

```
        <210> 342
        <211> 906
        <212> DNA
```

<213> Homo Sapiens

<400> 342

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ccaacatgtc ccgtggttcc agcgccggtt ttgaccgcca cattaccatt ttttcacccg      60
agggtcggct ctaccaagta gaatatgctt ttaaggctat taaccagggt ggccttacat     120
cagtagctgt cagagggaaa gactgtgcag taattgtcac acagaagaaa gtacctgaca     180
aattattgga ttccagcaca gtgactcact tattcaagat aactgaaaac attggttgtg     240
tgatgaccgg aatgacagct gacagcagat cccaggtaca gagggcacgc tatgaggcag     300
ctaactggaa atacaagtat ggctatgaga ttcctgtgga catgctgtgt aaaagaattg     360
ccgatatttc tcaggtctac acacagaatg ctgaaatgag gcctcttggt tgttgtatga     420
ttttaattgg tatagatgaa gagcaaggcc ctcaggtata taagtgtgat cctgcaggtt     480
actactgtgg gtttaaagcc actgcagcgg gagttaaaca aactgagtca accagcttcc     540
ttgaaaaaaa agtgaagaag aaatttgatt ggacatttga acagacagtg gaaactgcaa     600
ttacatgcct gtctactgtt ctatcaattg atttcaaacc ttcagaaata gaagttggag     660
tagtgacagt tgaaaatcct aaaattcagga ttnttacaga agcagagatt gatgctcacc     720
ttgttgctct agcagagaga gactaaacat tgtcgttagt ttaccagatc cgtgatgcca     780
cttacctgtg tgtttggtaa caacaaacca acatcatgga ggtccctgga ttgaaaaagg     840
agcctctccc actcctccta ccaccgaagt ggttaggact ctatataaat aaaacaaggc     900
ttttgg                                                                 906
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<210> 343
<211> 875
<212> DNA
<213> Homo Sapiens

<400> 343

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gcaaggcaat tgagcgtgga acaggaaatg acaattatag aacaacggga attgctacaa      60
tcgaggtgtt tttaccacca agactaaaaa aagataggaa aaacttgttg gagacccgat     120
tgcacatcac tggcagagaa ctgaggtcca aaatagctga aacctttgga cttcaagaaa     180
attatatcaa aattgtcata aataagaagc aactacaact agggaaaacc cttgaagaac     240
aaggcgtggc tcacaatgtg aaagcgatgg tgcttgaact aaaacaatct gaagaggacg     300
cgaggaaaaa cttccagtta gaggaagagg agcaaaatga ggccaaactc aaagaaaaac     360
aaattcagag gaccaagaga ggactagaaa tactggcaaa gagagcagca gagacagtgg     420
tggatccaga aatgacaccg tacttagaca tagctaacca gacaggcaga tcaatcagaa     480
ttcccccatc agaaagaaaa gcccttatgt tagctatggg atatcatgag aagggcagag     540
ctttcctgaa aagaaaagaa tatggaatag ccttgccatg tctgttggac gctgacaaat     600
atttctgtga gtgttgcaga gagctgctgg acacagtgga taactatgcc cgtcttcagc     660
tggatatagt gtggtgttac tttcgcctgg aacagctgga atgccttgat gatgcagaaa     720
aaaaattaac ttggnccaga aatgctttaa aaattggtcc ggagaaatcn tcgaaactgg     780
tccccntaaa nggaattgtg gggaaaagag aangtctggt tctaagactn tacttacttt     840
nagggatccg aacttttcca gggggaatga tgtaa                                 875
```

<210> 344
<211> 629
<212> DNA
<213> Homo Sapiens

<400> 344

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atatttccca cctttattt ccatcggtat catccgttta aaaagaatga caagaagatt      60
cccatcagtc caaactggac cacccacact ttgaaaaagt tggagcattt cagccggctc     120
cgcatgatcc atcctgtctt cagtcagtgc cttctggaag ggagggaaag tcttggatgc     180
acctggcact caatccactc ggcacctggc tgctgctgcg tcctggggc tggaaggaac     240
tcccactggg cacacatcta cagaggagtg cgtggcgcag tgaggacggt tactgctgga     300
gccgacacac agcgaactac atactttag aaagagcctc tgtcacatgg ctagaacaac     360
aacaacaaca aagaaaaccc acaaaaaacc tggagaaaat atatctaaat ctctgatagg     420
```

```
tctcttagct agcagtgagt tcagtatgac agcacagagt ctaaaaatat taattaaaaa    480
taaattgctt tggttagcat ttaaaccttt cccattcaat agaagatttc tgtaatgagg    540
aatgctgaat atatataaag cctgccactc aatctttgaa tttcnggggg cgcaattta     600
ctgaactaag anccctaaaa caactggcg                                      629
```

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        <210> 345
        <211> 724
        <212> DNA
        <213> Homo Sapiens
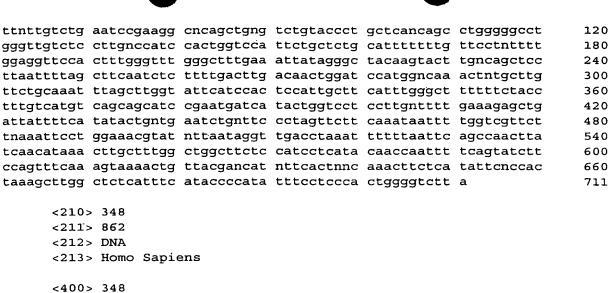
        <400> 345
cttgggtggt tattttnctt ttctgngtcc ttccccanca gcagttggaa ttttcttttg     60
aacacaaagt aaattaatgt tnatactgnt ttttcacctg agtcatgtaa aaggtgactc    120
ctttcatttt aaaaagttat atttaatttt tggggggcctt aattaaaatt taacatttaa   180
ccatgngtnn ttttttttgta aacagtctac atgtcaacaa atggataagg gttaacaaag    240
gcaaatnctg acttcatttg tgttttaaac acgattatat gaattttct ttttaatta      300
aaaaaatgac ataaaaccat tcatataggt cctcttctct caactgcttt gagatatagc    360
tttaaatatg ggtagatcaa gacaagtaat gttggnaatc tcttatcttg catagaaaag    420
aaaaaaataa aggaacttat ttccttccta aggtctcagc tagtttctta ngtctttctt     480
tcagctccaa tggaaattnc tcatagcact tcttacagac tggcttcatg tcaaactcca    540
caaacttatt cttgantgtt aatttagtgt tgcaggtana acaggcaaag cagttcacgc    600
accaggcctt attaagagca gagacccca tcaccttcta taacacgatt gcagtgggaa     660
gcaaacatca ccaaatagct gggttatagn gagtttcaca atatgcccag gcctttcctt     720
tcaa                                                                  724
```

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        <210> 346
        <211> 907
        <212> DNA
        <213> Homo Sapiens

        <400> 346
agagcgaaat tttaccactg agcaagtgac tgccatgctt ttgtccaaac tgaaggagac     60
agccgaaagt gttcttaaga agcctgtagt tgactgtgtt gtttcggttc cttgtttcta    120
tactgatgca gaaagacgat cagtgatgga tgcaacacag attgctggtc ttaattgctt    180
gcgattaatg aatgaaacca ctgcagttgc tcttgcatat ggaatctata agcaggatct    240
tcctgcctta gaagagaaac caagaaatgt agttttgta gacatgggcc actctgctta     300
tcaagtttct gtatgtgcat ttaatagagg aaaactgaaa gttctggcca ctgcatttga    360
cacgacattg ggaggtagaa aatttgatga agtgttagta aatcacttct gtgaagaatt    420
tgggaagaaa tacaagctag acattaagtc caaaatccgt gcattattac gactctctca    480
ggagtgtgag aaactcaaga aattgatgag tgcaaatgct tcagatctcc ctttgagcat    540
tgaatgtttt atgaatgatg ttgatgtatc tggaactatg aatagaggca aatttctgga    600
gatgtgcaat gatctcttag ctagagtgga gccaccactt cgtagtgttt tggaacaaaa    660
ccaagttaaa gaaagaagat atttatgcag tggagatagt tggtggtgct acacgaatcc    720
ctgcggtaaa aggagaagat cagcaaaatt tttcggtaaa gaacttagta caaccnttaa    780
atgctgatga aactgcactc gaggctgggc cattgcantg ggccatctta tcgcctgctt    840
tcaaagtccg agaantttct atcactgatg tagtaccata tccatatctc tgaaaaggga    900
atcttcc                                                              907
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        <210> 347
        <211> 711
        <212> DNA
        <213> Homo Sapiens

        <400> 347
ataatagnct gttttaatan aaacaagngt tggaatcaat caatgnccat ttcaggaagc     60
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ttnttgtctg aatccgaagg cncagctgng tctgtaccct gctcancagc ctgggggcct    120
gggttgtctc cttgnccatc cactggtcca ttctgctctg cattttttttg ttcctntttt    180
ggaggttcca ctttgggttt gggctttgaa attatagggc tacaagtact tgncagctcc    240
ttaattttag cttcaatctc ttttgacttg acaactggat ccatggncaa actntgcttg    300
ttctgcaaat ttagcttggt attcatccac tccattgctt catttgggct ttttctacc    360
tttgtcatgt cagcagcatc cgaatgatca tactggtcct ccttgntttt gaaagagctg    420
attattttca tatactgntg aatctgnttc cctagttctt caaataattt tggtcgttct    480
tnaaattcct ggaaacgtat nttaataggt tgacctaaat tttttaattc agccaactta    540
tcaacataaa cttgctttgg ctggcttctc catcctcata caaccaattt tcagtatctt    600
ccagtttcaa agtaaaactg ttacgancat nttcactnnc aaacttctca tattcnccac    660
taaagcttgg ctctcatttc atacccata tttcctccca ctgggggtctt a            711
```

        <210> 348
        <211> 862
        <212> DNA
        <213> Homo Sapiens

        <400> 348
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cttgagcctc atgtaaccgg cgctttagat caccaatctc ctcttgggct tcagatttaa     60
tgtcatttgc aatgactact gcagtctgga gatcagcctg aaactgccgc cattccgcag    120
attcttcccg aagtcttctg tggagtgtct ttatttctct ttccatgtcg tgcttttggt    180
cctggagttt tttaactgta ttctctagat cagaaataat gaggttgtca tgaagtttca    240
cagcacgatg ttgttctact tcatcttcaa gttcaaagat ggtttctttc atgtcactcc    300
tttctgtttc tttttcatcc aggtctgatc ttaatttttc taacgtcata ttcaaatctt    360
caatttgttt cttagcttct tcttggaagg ctcggtattc atcctctacc ttagcaatgg    420
catcctgtaa tcgattggca tcatttcggg tatgagccag atcttcctgc aagctactag    480
ccaaagtctc tgctttttct ttgtccagcc tgacactctc caggaggtcc tgaatatcag    540
atttgnctcc agagttatgg atagaataca gctctgccac tttctgcttt tcattctcca    600
gctgagcctt caggcgattc atctctatct ggtcactggc cactgnggct ttgnattcct    660
ctaacgtggc tgncaaggct gcttttcctt tctgctcnac tcaaataaat tcgctccata    720
tgggnggact ggcgttcctt tggagtgccc cctatcattt cttggngctt tccttantgg    780
ccttgggttc tggccatttt tccaaagtat tggctttaaa atggctggct tgggacnccc    840
aaggaaagct ggttcccggt tc                                             862
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        <210> 349
        <211> 832
        <212> DNA
        <213> Homo Sapiens

        <400> 349
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caaatggttc aaataatgcg gaacacgaaa cattgactaa tacaagtgct ttaaatatga    120
aacaaaatta tttttttaaaa aagcaaaaga ataaagaata tatacaaaag ggacctggaa    180
tctgtaagct gattccaaaa acgaaataag tagaaaatcc atggtgaaac ctgaacattc    240
tacctctgct ttggagaagg gctatcatac aacattcagt cagctgaaga tggattggta    300
gaggtgtgtc tatacataaa cttcagtcat ttttgcttgt gcagaatcat cccaatcttc    360
ccaagactga atgggcagtc ctgtggcttt cttccttttc catattccca acaaggctac    420
gtgaagttca actcttgatg agccgcttac aacagcagtt ccttaggagc caacatgaca    480
ggtgggtcag atttccctat gagaaacaaa actggccacc tacagcaaaa tatcaaaatg    540
ggtaagtcct tccttcctct tcctcctgat tatatacaac atatctcctt tcaagactat    600
tatttccatc atgcttattc cttcacaaat ctaaaccttg aggtgatatg aaggaaacca    660
acatcangaa aagaaaactc aattcagaaa tgaagaaaac tggcaggtat acaatacacc    720
cccagaacat ctcaatatcc ctggccagta caattcaagt gnactgggta caggcccata    780
ggattaaata attgggcagc ttgggaataa agctcatttt tttncccctca gg           832
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<210> 350
<211> 782
<212> DNA
<213> Homo Sapiens
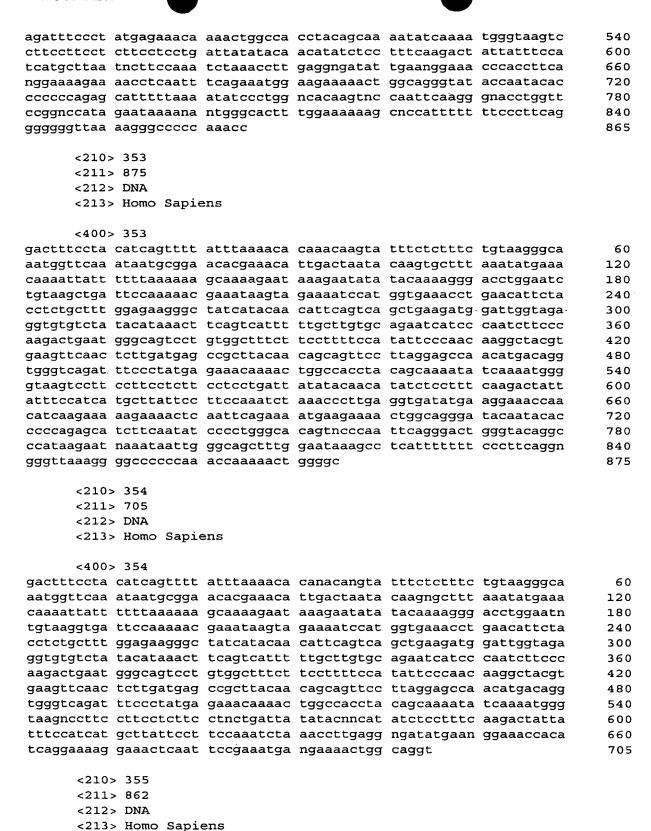
<400> 350
ccnacatcag tttnattnaa aacacaanca agnatttctn tttcngnang gncaaagggt    60
tnaaanaang cgnancacna ancatngact aatncaaggg cttnaaatat gaancaaaat   120
nattttttaa aaaagcaaaa naataaanaa tatatncaaa ngggaccngn aatcngnaag   180
cngatnccaa aaccnaaata agtaaaaaan ccanggggaa nccngancat tcnacctnng   240
nttngnaaaa gggctatcat ncaacattca gncagntgaa nanggatngg nanaggnggg   300
ncnatncata ancttcagnc attttngctn gggcaaaatc atcccaatnt tcccaanact   360
gaanggncag cccngggggct ttcttccttt nccanattcc caacanggnt acgngaagtt   420
caactntnga nganccgttt acaacagcag ttccttagga nccancatga cagggggggnc   480
aaatttccct atgagaanca aaacnggcca cctacagcaa aatatcaaaa ggggnaagnc   540
cttccttcct cttcctccng attatatnca ccatatctcc tttcangact atnatttcca   600
tcaggctnat tccttcacaa atntaaacct tgagggggata tgaaggaacc caacttcngg   660
aaangaaaac tcaattcana aattgaagaa acctggcagg tatacaatac cccccccaggn   720
catntcaana tccctggcac aagnnccaat tcagggncct ggtaccagcc ccatagaana   780
aa                                                                  782

<210> 351
<211> 775
<212> DNA
<213> Homo Sapiens

<400> 351
ggcaaggcgg ctgctgcgaa tcaccaaaag aacagggatg aaagaagaga agaaccttca    60
ggaaggaaat gaagttgatt ctcagagcag tattagaaca gaagctaaag aggcttcagg   120
tgagaccaca ggagttgaca tcactaaaat tcaagtcaag agatgtgaga ccatgagaga   180
gaagcacatg cagaaacagc aggagaggga aaaatcagtc ttgacacctc ttcggggaga   240
tgtagcatct tgcaataccc aagtggcaga gaaaccagtg ctcactgctg tgccaggaat   300
cacacggcac ctgaccaagc ggcttcccac aaagtcatcc cagaaggtgg aggtagaaac   360
ctcagggatt ggagactcat tattgaatgt gaaatgtgca gcacagacct ggaaaaaag    420
gggtaaagct aaacccaaag tgaacgtgaa gccatctgtg gttaaagttg tgtcatcccc   480
caaattggcc ccaaaacgta aggcagtgga gatgcacgct gctgtcattg ccgctgtgaa   540
gccactcagc tccagcagtg tcctacagga accccagcc aaaaaggcag ctgtggctgt   600
tgtcccgctt gtctctgagg acaaatcagt cactgtgcct gaagcagaaa atcctagaga   660
cagtctttgt gcttgncttc aacccagtcc ttnttcagat tccttacccc cagaggtgtc   720
ttggnccttt cttcatncca aatggagcct tgaaaaactt cggccgactt agctt        775

<210> 352
<211> 865
<212> DNA
<213> Homo Sapiens

<400> 352
cctacatcag ttttatttaa aacacaaaca agtatttctc tttctgtaag ggcaaatggt    60
tcaaataatg cggaacacga aacattgact aatacaagtg ctttaaatat gaaacaaaat   120
tattttttaa aaaagcaaaa gaataaagaa tatatacaaa agggacctgg aatctgtaag   180
gtgattccaa aaacgaaata agtagaaaat ccatggtgaa acctgaacat tctacctctg   240
ctttggagaa gggctatcat acaacattca gtcagctgaa gatggattgg tagaggtgtg   300
tctatacata aacttcagtc attttttgctt gtgcagaatc atcccaatct tcccaagact   360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt   420
caactcttga tgagccgctt acaacagcag ttccttagga gccaacatga caggtgggtc   480
```

```
agatttccct atgagaaaca aaactggcca cctacagcaa aatatcaaaa tgggtaagtc    540
cttccttcct cttcctcctg attatataca acatatctcc tttcaagact attatttcca    600
tcatgcttaa tncttccaaa tctaaacctt gaggngatat tgaanggaaa cccaccttca    660
nggaaaagaa aacctcaatt tcagaaatgg aagaaaaact ggcagggtat accaatacac    720
cccccagag catttttaaa atatccctgg ncacaagtnc caattcaagg gnacctggtt    780
ccggnccata gaataaaana ntgggcactt tggaaaaaag cnccattttt ttcccttcag    840
ggggggttaa aagggcccccc aaacc                                        865
```

        <210> 353
        <211> 875
        <212> DNA
        <213> Homo Sapiens

        <400> 353

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gactttccta catcagtttt atttaaaaca caaacaagta tttctctttc tgtaagggca     60
aatggttcaa ataatgcgga acacgaaaca ttgactaata caagtgcttt aaatatgaaa    120
caaaattatt ttttaaaaaa gcaaaagaat aaagaatata tacaaaaggg acctggaatc    180
tgtaagctga ttccaaaaac gaaataagta gaaaatccat ggtgaaacct gaacattcta    240
cctctgcttt ggagaagggc tatcatacaa cattcagtca gctgaagatg gattggtaga    300
ggtgtgtcta tacataaact tcagtcattt ttgcttgtgc agaatcatcc caatcttccc    360
aagactgaat gggcagtcct gtggctttct tccttttcca tattcccaac aaggctacgt    420
gaagttcaac tcttgatgag ccgcttacaa cagcagttcc ttaggagcca acatgacagg    480
tgggtcagat ttccctatga gaaacaaaac tggccaccta cagcaaaata tcaaaatggg    540
gtaagtcctt ccttcctctt cctcctgatt atatacaaca tatctccttt caagactatt    600
atttccatca tgcttattcc ttccaaatct aaacccttga ggtgatatga aggaaaccaa    660
catcaagaaa aagaaaactc aattcagaaa atgaagaaa ctggcaggga tacaatacac    720
ccccagagca tcttcaatat cccctgggca cagtncccaa ttcagggact gggtacaggc    780
ccataagaat naaataattg ggcagctttg aataaagcc tcattttttt cccttcaggn    840
gggttaaagg ggccccccaa accaaaaact ggggc                              875
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        <210> 354
        <211> 705
        <212> DNA
        <213> Homo Sapiens

        <400> 354

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gactttccta catcagtttt atttaaaaca canacangta tttctctttc tgtaagggca     60
aatggttcaa ataatgcgga acacgaaaca ttgactaata caagngcttt aaatatgaaa    120
caaaattatt ttttaaaaaa gcaaaagaat aaagaatata tacaaaaggg acctggaatn    180
tgtaaggtga ttccaaaaac gaaataagta gaaaatccat ggtgaaacct gaacattcta    240
cctctgcttt ggagaagggc tatcatacaa cattcagtca gctgaagatg gattggtaga    300
ggtgtgtcta tacataaact tcagtcattt ttgcttgtgc agaatcatcc caatcttccc    360
aagactgaat gggcagtcct gtggctttct tccttttcca tattcccaac aaggctacgt    420
gaagttcaac tcttgatgag ccgcttacaa cagcagttcc ttaggagcca acatgacagg    480
tgggtcagat ttccctatga gaaacaaaac tggccaccta cagcaaaata tcaaaatggg    540
taagnccttc cttcctcttc ctnctgatta tatacnncat atctcctttc aagactatta    600
tttccatcat gcttattcct tccaaatcta aaccttgagg ngatatgaan ggaaaccaca    660
tcaggaaaag gaaactcaat tccgaaatga ngaaaactgg caggt                   705
```

        <210> 355
        <211> 862
        <212> DNA
        <213> Homo Sapiens

        <400> 355

-204-

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ccatcagtga gagcgagctg agcgccagcg ccactgagct gctgcaggac tacatgctga          60
cgctgcgcac caagctgtca tcacaggaga tccagcagtt tgcagcactg ctgcacgagt         120
accgcaatgg ggcctctatc cacgagttct gcatcaacct gcggcagctc tacggggaca         180
gccgcaagtt cctgctgctt ggtctgaggc ccttcatccc tgagaaggac agccagcact         240
tcgagaactt cctggagacc attggcgtga aggatggccg cggcatcatc actgacagct         300
ttggcaggca ccggcgggcc ctgagcacca catccagttc caccaccaat gggaacaggg         360
ccacgggcag ctctgatgac cggtcggcac cctcagaggg ggatgagtgg gaccgcatga         420
tctcggacat cagcagcgac attgaggcgc tgggctgcag catggaccag gactcagcat         480
gatggacagt ggatgggggg gcacccacac cttccgcgca gtcgtcatag gccttcccag         540
aaggagctgc ccagacctgc gtgtcagccc ttggtggtgg ccaggganag gcgcccggtg         600
cagatggccc cgggcggccc aggtcctnta ctgtgaagga gcagggagct gccgagggac         660
acgagcctca gtgcggggtg gaaggctctt tgccttgtcc accagggntc agccaagccc         720
tgcagtgtgt ccccgctcgg ggagggcccg ccgagcggg caggagagc cagtcctgtc         780
ggctgggccc ttggacggct gtcagttttg cacatgatgt tcctattgta actntcagag         840
accttaaaaa gaagtttact gc                                                  862
```

        <210> 356
        <211> 750
        <212> DNA
        <213> Homo Sapiens

        <400> 356
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ccatcagtga gagcgagctg agcgccagcg ccactgagct gctgcaggac tacatgctga          60
cgctgcgcac caagctgtca tcacaggaga tccagcagtt tgcagcactg ctgcacgagt         120
accgcaatgg ggcctctatc cacgagttct gcatcaacct gcggcagctc tacggggaca         180
gccgcaagtt cctgctgctt ggtctgaggc ccttcatccc tgagaaggac agccagcact         240
tcgagaactt cctggagacc attggcgtga aggatggccg cggcatcatc actgacagct         300
ttggcaggca ccggcgggcc ctgagcacca catccagttc caccaccaat gggaacaggg         360
ccacgggcag ctctgatgac cggtcggcac cctcagaggg ggatgagtgg gaccgcatga         420
tctcggacat cagcagcgac attgaggcgc tgggctgcag catggaccag gactcagcat         480
gatggacagt ggatgggggg gcacccacac cttccgcgca gtcgtcatag gccttcccag         540
aaggagctgc cagacctgcg tgtcaaccct tggtggtggc cagggagagg cgcccggtgc         600
agatggcccc gggccggccc aagtcctcta ctgtgaagga acagggagct gccgangga         660
cacgaacctc aatgccgggg tggaangctc tttggcttgt ccaccaaggc ttagcccagc         720
ccttgcaatg nggccccgct tcggggaagg                                          750
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        <210> 357
        <211> 725
        <212> DNA
        <213> Homo Sapiens

        <400> 357
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gcagtaaact tcttttttaag gtctctgana gttacaatag gaacatcatg tgcaaaactg          60
acagccgtcc aagggcccag ccgacaggac tggctctccc tgcccgctcg gccgggccct         120
ccccgagcgg ggacacactg cagggcttgg ctganccctg gtggacaagg caaagagcct         180
tccacccgc actgaggctc gtgtccctcg gcagctccct gctccttcac agtanaggac         240
ctgggccgcc cggggccatc tgcaccgggc gcctntccct ggccaccacc aagggctgac         300
acgcaggtct gggcagctcc ttctgggaag gcctatgacg actgcgcgga aggtgtgggt         360
gcccccccat ccactgtcca tcatgctgag tcctggtcca tgctgcagcc cagcgcctca         420
atgtcgctgc tgatgtccga natcatgcgg tcccactcat ccccctctga gggtgccgac         480
cggtcatcag agctgcccgt ggccctgttc ccattggtgg tggaactgga tgtggtgctc         540
agggcccgcc ggtgcctgcc aaagctgtca gtgatgatgc cgcggccatc cttnacgcca         600
atggtctnca ggaagttctc gaantgctgg ctgncctttn tcagggatga anggccttan         660
accaagcagc anggaacttg cggnttntcc ccgaaaanct tgccncaggt tgatgcaaaa         720
acttc                                                                     725
```

```
<210> 358
<211> 813
<212> DNA
<213> Homo Sapiens

<400> 358
aaggcgacag ctgcccattc cgtcactgtg aagctgcaat aggaaatgaa actgtttgca    60
cattatggca agaagggcgc tgttttcgac aggtgtgcag gtttcggcac atggagattg   120
ataaaaaacg cagtgaaatt ccttgttatt gggaaaatca gccaacagga tgtcaaaaat   180
taaactgcgc tttccatcac aatagaggac gatatgttga tggccttttc ctacctccga   240
gcaaaactgt gttgcccact gtgcctgagt caccagaaga ggaagtgaag gctagccaac   300
tttcagttca gcagaacaaa ttgtctgtcc agtccaatcc ttcccctcag ctgcggagcg   360
ttatgaaagt agaaagttcc gaaaatgttc ctagccccac gcatccacca gttgtaatta   420
atgctgcaga tgatgatgaa gatgatgatg atcagttttc tgaggaaggt gatgaaacca   480
aaacacctac cctgcaacca actcctgaag ttcacaatgg attacgagtg acttctgtcc   540
ggaaacctgc agtcaatata aagcaaggtg aatgtttgaa ttttggaata aaaactcttg   600
aggaaattaa gtcaaagaaa atgaaggaaa aatctaagaa gcaaggtgag ggttcttcag   660
gagtttccag tcttttactt caccccttgag ccccgntcca ngtcctgaaa aagaaaatgt   720
caaggactgt ggtgangaca gtactntttt caccaaccaa ggagaagaac ccttggttag   780
atgagtctta ctgagagact ggggaaacca aaa                                813

<210> 359
<211> 756
<212> DNA
<213> Homo Sapiens

<400> 359
cagcagagga gaggcagagg ataaaagagg aagagaaaag ggcagcagag gagaggcaaa    60
gggccagggc agaggaggaa gagaaggcta aggtagaaga gcagaaacgt aacaagcagc   120
tagaagagaa aaaacgtgcc atgcaagaga caaagataaa aggggaaaag gtagaacaga   180
aaatagaagg gaaatgggta aatgaaaaga aagcacaaga agataaactt cagacagctg   240
tcctaaagaa acagggagaa gagaagggaa ctaaagtgca agctaaaaga gaaaagctcc   300
aagaagacaa gcctaccttc aaaaaagaag agatcaaaga tgaaaagatt aaaaaggaca   360
aagaacccaa agaagaagtt aagagcttca tggatcgaaa gaagggattt acagaagtta   420
agtcgcagaa tggagaattc atgacccaca aacttaaaca tactgagaat actttcagcc   480
gccctggagg gagggccagc gtggacacca aggaggctga gggcgccccc caggtggaag   540
ccggcaaaag gctggaggag cttcgtcgtc gtcgcgggga gaccgagagc cgaagagttc   600
gagaagctca aacagaagca gcaggaggcg gctttggagc tggaggaact caaggaaaaa   660
ganggaggag agaaggaagg tcctgganga ggaagagcag aggaaggaac aggaggaaag   720
ccgatcggaa aaccttcaag aggaggaaga agaaga                             756

<210> 360
<211> 706
<212> DNA
<213> Homo Sapiens

<400> 360
aatttcttcc atgctttatt ataaagngca naaacaacat gacttctgta tttaaaaaaa    60
caaaaactac ggttcatttt tctagatact gcacacattc cgcaggcaat tttaaacttg   120
gatcttctgt tgacttcana tgnggttggt atcactgctc aaatacagag ttatgatgat   180
cagtanaaaa gtctntattt cacagcatgg gtttctttan aaacaggctc ctgngcaaag   240
gcagtacttt taccatgaac atctntanac tgggattatt aaatatagng ataatataca   300
tgggtttact gggatattga aaaataaaag ataatgaacc caatttagta aatcaacata   360
aatacaaaac agagcgaatt agccctntac aactgagctc gtcctgcgtc ttgagcttgg   420
gttctttctg gaactgtctc aaaccttagt gggggaagtg accttatcca canattgctt   480
```

```
ttcccagagg ttccgcttgc tggataccgt ctcctggnct caagtcanaa ggtttgggag      540
caggtgactt gtttccatct ggggttttaa gttagccatt cattgatgcg gctagaaacc      600
cctaccttta agccagcagt ttnccttatt tgggggngcc ctgctgcant gggggggatga     660
aaacncattt cctttntcca catactcttg aaggttgcgg tacacc                     706
```

```
        <210> 361
        <211> 726
        <212> DNA
        <213> Homo Sapiens

        <400> 361
gccatgctac gcgcgctgag ccgcctgggc gcggggaccc cgtgcaggcc ccgggcccnt       60
ctgntgctgc cagcgcgcgg ccgcaagacc cgccacgacc cgctggccaa atccaagatc      120
gagcgagtga acatgccgcc cgcggtggac cctgcggagt tcttcgtgct gatggagcgt      180
taccagcact accgncagac cgtgcgcgcc ctcaggatgg anttcgtgtc cgaggtgcat      240
aggaaggtgc acgaggcccg agccggngtt ctggcgganc gcaaggccct gaaggacgcc      300
gccgagcacc gcnagctgat ggcctggaac caggcggaga accggcggct gnacgagctg      360
cggatagcga ggctgcggca ggaggancgg nagcaggagc agtgncaggc gttggagcan      420
gcccgcaagg ccgaagaggt gcangcctgg cgcagcgca aggagcgnga antgctgcag       480:
ctgcagnaag aggtgaaaaa cttcatcacc cgagagaacc tggaggcacg ggtggaagca      540
gcattggact cccggaagaa ctacaactgg gccatcacca gagaggggct ggtggtcagg      600
ccacaacgca nggacttcta agggcccagt aaggacagtg cccggcaggg accatgtatg      660
tatcatggcg gaagagttgc ccttgactgg aattaaagca attggtgttg cttatgagga      720
aaggtt                                                                 726
```

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        <210> 362
        <211> 747
        <212> DNA
        <213> Homo Sapiens

        <400> 362
gcaggaagga attccattna ttggggatgc attttcacaa tatatgttna tnggagcgat       60
ccattatcag ggaaaagtat caagggttna taaaattttt aggaanggca nattcacaga      120
acatgctagt cagctngcag ttttacctcg taaagatanc aganaattat agncaaacca      180
gtaaacangg aattnacttt tcaaaagatt aaatccaaac tgancaaaat tntaccctaa      240
aacttactcc atccaaatat tggaataaaa gtcagcaggg atncattctn ttctgaactt      300
tanattttnt anaaaaatat gtaatagnga tcaggaggag ctnttgttca aaagtncaac      360
aaagcaangt taccttacca taggccttaa ttcaaacttt gatccatttc actccaanga      420
cgggagtcaa ngctacctgg gacacttgta tttgtaaatt ctgatttagc ttatngtaaa      480
cttgggccta ctttgncatg agggtttgac ttcngcattn ttcggggntt tccttccttt      540
ggcttaggtt tgctaaagct agaanattca attgctcttt acagacttat gaggaanata      600
gactttgtaa cgcanatgtc acttttaatg ccagccctgc cctggttagc ncttctggag      660
gaatactgca gataagaaaa atagttattt gggaggctcc ctcagngggg tanggaattg      720
gggactaacc ncaattttng gttaaag                                          747
```

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        <210> 363
        <211> 1227
        <212> DNA
        <213> Homo Sapiens

        <400> 363
gtgaagaccc tgagtccgtt tatttgccgg taggagcagg ctccaacatt ttgtctccat       60
caaacgttga ctgggaagta gaaacagata attctgattt accagcaggt ggagacatag      120
gaccaccaaa tggtgccagc aaggaaatac cagaattgga agaagaaaaa acaattccta      180
ccaaagagcc tgagcagata aaatcagaat acaaggaaga aagatgcaca gagaagaatg      240
```

```
aagatcgtca tgcactacac atggattaca tacttgtaaa ccgtgaagaa aattcacact    300
caaagccaga gacctgtgaa gaaagagaaa gcatagctga attagaattg tatgtaggtt    360
ccaaagaaac agggctgcag ggaactcagt tagcaagctt cccagacaca tgtcagccag    420
cctccttaaa tgaaagaaaa ggtctctctg cagagaaaat gtcttctaaa ggcgatacga    480
gatcatcttt tgaaagccct gcacaagacc agagttggat gttcttgggc catagtgagg    540
ttggtgatcc atcactggat gccagggact cagggcctgg gtggtctggc aagactgtgg    600
agccgttctc tgaactcggc ttgggtgagg tccccagct gcagattctg gaagaaatga    660
agcctctaga atctttagca ctagaggaag cctctggtcc agtcagccaa tcacagaaga    720
gtaagagccg aggcagggct ggcccggatg cagttaccca tgacagtgaa tgggaaatgc    780
tttcaccaca gcctgttcag aaaaacatga tccctgacac ggaaatggag gaggagacag    840
agttccttga gctcggaacc aggatatcaa gaccaaatgg actactgtca gaggatgtag    900
gaatggacat ccccctttgaa gagggcgtgc tgagtcccag tgctgcagac atgaggcctg    960
aacctcctaa ttctctggat cttaatgaca ctcatcctcg gagaatcaag ctcacagccc   1020
caaatatcaa tctttctctg gaccaaagtg aaggatctat tctctctgat gataactttg   1080
gacagtccag atgaaattga catcaatgtg gatgaacttg atacccccga tgaagcagat   1140
tcttttgagt accctggccc atgaagaatc ccacagccac aaagattctg gcccaagaag   1200
tcagagtcta tttcnggaat ataccgg                                      1227
```

        <210> 364
        <211> 831
        <212> DNA
        <213> Homo Sapiens

        <400> 364
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ctgacatcta caccgaggtc cgcgagctgg tgagcctcaa gcaggagcag caggctttca     60
aggaggcggc ccgacacgga gcggctcgcc ctgcaggccc tcacggagaa gcttctcagg    120
tctgaggagt ccgtctcccg cctcccggag gagatccgga gactggagga agagctccgc    180
cagctgaagt ccgattccca cgggccgaag gaggacggag gcttcagaca ctcggaagcc    240
tttgaggcac tccagcaaaa gagtcaggga ctggactcca ggctccagca cgtggaggat    300
ggggtgctct ccatgcaggt ggcttctgcg cgccagaccg agagcctgga gtccctcctg    360
tccaagagcc aggagcacga gcagcgcctg gccgccctgc aggggcgcct ggaaggcctc    420
gggtcctcag aggcagacca ggatggcctg gccagcacgg tgaggagcct gggcgagacc    480
cagctggtgc tctacggtga cgtggaggag ctgaagagga gtgtgggcga gctccccagc     540
accgtggaa tcactccaga aggtgcagga acaggtgcac acgctgctca gtcaggacca    600
agcccaggcc cgccgtctgc cttctcagga ctttctggac agactttctt ctctagacaa    660
cctgaaagcc tcagtcaggc cagtggaagc cggacttgaa aatgctcaag aactgctgtg    720
gacaagttgg gtgcataact cggtcaaaat tagaaaccaa cgagnacaat tttggaatca    780
agcccanggt tactagatga ccttggggaa tgatcnggat aggttgtttg t             831
```

        <210> 365
        <211> 785
        <212> DNA
        <213> Homo Sapiens

        <400> 365
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acttgaaatc tgccagccag acaggatttc tgaggttaat ctgcttctgt taatcctcaa     60
tttaagcctt tatcattttt ctctgactag agacatccat gaaaagccac ctgttattca    120
cagggctgc gcttcaggaa accaaccaaa tgcagaagca gagaacttaa atattgtaaa    180
taagttaact gggcatgaaa atacaatgcc ttggtgttca ggtggtgaca actgctcttt    240
aagaggggac aagaaattgg ggggtagggg acacatggga aaaaccaca cattttttgg    300
tcatgagaaa ttggacttta aatccgcgcc ctgcacacgc aattcattta gaccttttcg    360
tgaatcttct ccactttcac aaacaaccta tccagatcat tcctcaggtc atctagtaaa    420
cccttggctg attccagatt gttctcgttg gtttctattt tgaccgagta tgcaaccaaa    480
ctgtccacag cagtcctgag cattttcaag tccgcctcca cttggctgac tgaggctttc    540
aggttgtcta gagaagaaag tctgtccagg aagtcctgag gaggcagacg ggcggcctgg    600
```

```
gcttggtcct gactgagcag cgtgtgcacc tgctcctgcc ctttctggga gtgattccac      660
ggtgctgggg agctngccca cacttcctct tcagcttctt ccacgtcacc cgtaaaagca      720
cccagctggg tctcgnccaa gcttcntacc gtgctgggcc aggcccatcc tggnctggct      780
tttga                                                                  785
```

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        <210> 366
        <211> 816
        <212> DNA
        <213> Homo Sapiens

        <400> 366
gtcagccagc ctccttaaat gaaagaaaag gtctctctgc agagaaaatg tcttctaaag       60
gcgatacgag atcatctttt gaaagccctg cacaagacca gagttggatg ttcttgggcc      120
atagtgaggt tggtgatcca tcactggatg ccagggactc agggcctggg tggtctggca      180
agactgtgga gccgttctct gaactcggct tgggtgaggg tccccagctg cagattctgg      240
aagaaatgaa gcctctagaa tctttagcac tagaggaagc ctctggtcca gtcagccaat      300
cacagaagag taagagccga ggcagggctg gcccggatgc agttacccat gacagtgaat      360
gggaaatgct ttcaccacag cctgttcaga aaaacatgat ccctgacacg gaaatggagg      420
aggagacaga gttccttgag ctcggaacca ggatatcaag accaaatgga ctactgtcag      480
aggatgtagg aatggacatc cccttttgaag agggcgtgct gagtcccagt gctgcagaca      540
tgaggcctga acctcctaat tctctggatc ttaatgacac tcatcctcgg agaatcaagc      600
tcacagcccc aaatatcaat ctttctctgg accaaagtga aggatctatt ctctctgatg      660
ataactttgg acagtccaga tgaaattgac atcaatgtgg atgaacttga tacccccgat      720
gaagcagatt cttttgagta ccctggccca tgaagaatcc cacagccaca aagattctgg      780
cccaagaagt cagagtctat ttcnggaata taccgg                                816
```

```
        <210> 367
        <211> 803
        <212> DNA
        <213> Homo Sapiens

        <400> 367
aaaagaacca tggaagttct cctgaacagg tagtgaggcc aaaagttaga aaactgataa       60
gttcaagcca ggtggaccaa gaaacaggtt ttaataggca tgaggcgaaa caaagaagtg      120
ttcaaagatg agagagaggct ttggaagttg aggaaagtgg ctcagatgac ctcttaataa      180
aatgtgaaga atatgatgga gagcatgact gtatgttctt ggatccacca tactcaagag      240
ttattacaca aagggaaaca gaaaataacc aaatgacatc agaaagtgga gccacagcag      300
gaaggcaaga agtggataac acctttttgga atggctgtgg agattattac caactctatg      360
acaaagatga agatagttct gaatgcagtg atggggaatg gtctgcttct ttgcctcatc      420
gattttctgg tacagaaaaa gatcaatcct caagtgatga aagctgggag actctgccag      480
gaaaagatga gaatgaacct gagctacaaa gtgatagcag tggccctgaa gaagaaaacc      540
aagaattatc tcttcaggaa ggggaacaga catccttgga agagggagaa attccttggt      600
tacagtacaa tgaagtcaat gaaagcagca gtgatgaagg gaaatgaacc tgccaatgaa      660
tttgcacagc cagctttcat gttggatggt aacaataacc tggangatga cttccgtgtg      720
aagtgaagac ttagatgtgg attggagcct attttgatgg ctttgcaaat gggcctagga      780
gttgctggaa gctttttcat aag                                              803
```

```
        <210> 368
        <211> 809
        <212> DNA
        <213> Homo Sapiens

        <400> 368
attagaaatg accaccgagt atattctgtt tattgtttat gatttacaca gaaaatgatg       60
ggctggggtt atagaacaat aaaccaacca ttacatttag acctgggctt ttgaaaaact      120
```

```
tgcattccat tttaacaatt cgtatgtatc taacaaatac ataaatccag atcacaaata      180
atcttaagag ttaaacaatt aagaaacaca aagaatacca catagatcta cctttaaata      240
tcagcattca tattataaga aataagaaaa tgttaaaaaa ataaaattag gttaagtcac      300
aacataaaat agagaaataa gataaatgct attttattaa tattcatact tatttctaat      360
ttaccttcat atagtcttaa cttttttcaaa aggatccaag atatgatcaa ataatatttt      420
agtatctgaa cttgccagcc ttagcttata ccagagcttg ttaccatgaa aatcctaaaa      480
cctcaatttt ctttttcttt tttaaaattt aagccaactc ttattcaact tttcttcttc      540
acagcagctg tttatagata gtagggagcc aagaatgaag gacagtaaca gatggaaagc      600
aaaaagtaca acagctatct taagttcagc tctcaacatt gctggttgag tttggaaccc      660
aaaaccctct taacaactgg cagataatag cttaaatctt tacaggccaa ggaagaaata      720
ttttctttgg ggacagctgn tatctagaag aaaacccang ggccctttaa tataggccta      780
aaatattaan gggnggcttt aattttagg                                        809
```

```
        <210> 369
        <211> 826
        <212> DNA
        <213> Homo Sapiens

        <400> 369
gtgaagaccc tgagtccgtt tatttgccgg taggagcagg ctccaacatt ttgtctccat       60
caaacgttga ctgggaagta gaaacagata attctgattt accagcaggt ggagacatag      120
gaccaccaaa tggtgccagc aaggaaatac cagaattgga agaagaaaaa acaattccta      180
ccaaagagcc tgagcagata aaatcagaat acaaggaaga aagatgcaca gagaagaatg      240
aagatcgtca tgcactacac atggattaca tacttgtaaa ccgtgaagaa aattcacact      300
caaagccaga gacctgtgaa gaaagagaaa gcatagctga attagaattg tatgtaggtt      360
ccaaagaaac agggctgcag ggaactcagt tagcaagctt cccagacaca tgtcagccag      420
cctccttaaa tgaaagaaaa ggtctctctg cagagaaaat gtcttctaaa ggcgatacga      480
gatcatcttt tgaaagccct gcacaagacc agagttggat gttcttgggc catagtgagg      540
ttggtgatcc atcactggat gccagggact cagggcctgg gtggtctggc aagactgtgg      600
agccgttctc tgaactcggc ttgggtgagg gtccccagct gcagattctg gaagaaatga      660
acctctagaa tctttagcac tagangaagc ctntggtcca gtcagcccat cacaggaaga      720
gttagaaccc gaggcanggc tgggcccgga tgcagtaccc cntgacagtg gaatgggnaa      780
tgcttttanc cacagcctgt tcagaaaaac atgatccttg ccccgg                     826
```

```
        <210> 370
        <211> 783
        <212> DNA
        <213> Homo Sapiens

        <400> 370
gcagaatcaa ttttattttc tgaattatac agtgaggcta tatagatata ttgtgtcatt       60
aaagactttt atattattaa tctacattat ggagaattta tttaccaaaa cgaagtctaa      120
cagacacttt attctgagca atccaatgca tgatagaaaa acctttagat atataaaaga      180
ttaatttgtg cacatctaaa tgtttctaag ggaacaaact actgaggcat tgtgataaga      240
cgagagttgc aaacatagta ccataactga atatttaaaa ttacatctta acaaaggcta      300
ggagtagtga cttcctcaca cacctcagag aatgtcttag agagtaaccc catagaacat      360
tgtatggctt caacagaaac ttcaggattt cttccacac tgagctactg ccctcaaaca      420
aactttctca ctccttgaca ctatcttctg tgcaaatttc tgttctttct cttaatcaag      480
gagctttgag aaacaatgct tttgccccaa tgacccccttg gttcccttaa ctacagatct      540
ataggagaaa tgcaaagcag ttcccagaag tcagaaccaa agcaagaatg ttcagagtgc      600
aagagctaga gagctaaatc atgtgaatgg ttacctctgn ctacctatct gcttanggat      660
tatttttcta nggattcatc taggattcta tttaccttgg gggtgaaatg gacatggtag      720
cttttcctta gccccatgcc aattaaaatt naatttgggc ntttaaagaa taattaaaat      780
tgc                                                                    783
```

<210> 371
<211> 793
<212> DNA
<213> Homo Sapiens

<400> 371

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ccacactgca ggatctgtct tcttctaaag aaccttctaa ttccctaaac ttacctcaca      60
gtaatgagct gtgttcatcc cttgtgcatc ccgaattgag tgaggtcagt tctaacgttg     120
caccaagcat ccctccagta atgtcaagac ctgttagctc ttcctccatt tccactccct     180
tgcccccaaa tcaaataact gtatttgtca cttccaatcc catcacaact tcagctaaca     240
catcagcagc tttgccaact cacttgcagt ctgcattgat gtcaacagtt gtcacaatgc     300
ccaatgcggg tagcaaggtt atggtttctg agggacagtc agctgctcag tctaatgccc     360
ggcctcagtt cattacacct gtctttatca attcatcctc aataattcag gttatgaaag     420
gatcacagcc aagcacaatt cctgcagccc cactgacaac caactctggc ctgatgcctc     480
cctctgttgc agttgttggc cctttacaca tacctcagaa cataaaattt tcttctgctc     540
ctgtaccgcc taatgccctc tccagtagtc ctgctccaaa catccagaca ggtcgacctt     600
tggtccttag ctcacgagcc acccctgttc agcttccttc ccttcttgna cgtcttctnc     660
agttgccctt ctnatcccct gtgcaacaag tgaaagaatt gaatncagat gangctagcc     720
ctnangtgaa caccttaaca gatcagacac tttttccttt tncagtcaac cccaatgggt     780
tcttcccttt tga                                                        793
```

<210> 372
<211> 804
<212> DNA
<213> Homo Sapiens

<400> 372

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cacattgtac aaatccttag attctcttta ttcactggtc catttctaca acaaatacat      60
ccaaaacact atataataaa attatttaca acatttccaa atgagaagat tgcttttgcc     120
cccactactg ctattcacac acagtacttc cacggcacaa tacattagga gatctaaaaa     180
tgctcaccct gtactctagg ctgcttagga aatgtgaaaa ctagtaacat ttataatggc     240
attagctcct ttcaatacaa gacaacattt tagaaacctt gaacttcaac tcgcaacacc     300
aaaagggctc aacagtcctg ctttccccat tgcactttat gaaacaggtt gcagggacta     360
ggaaaagggc cacattatta aaattactaa ctgtacagaa attgatttaa aaaagtcaca     420
gctcaaaatt gctctttgta aaagtcacac acatttccaa gtatcaagtc gcagtcctgc     480
ttgtttactt ggatttttctt cgcttggatt gcaccgcact ggttatgtct ttagtagagc     540
tggaggctga agcaggtcga gaagatcgtt tacgatgtcc attttccaca ctttcagagg     600
ccacagttgg ctcttcagtt cgggagtttc ttcggcctgg gatttggact tttcaactat     660
ctctttgggc tcactgcttt gtccagagac tatggcagca tttacctccg ctttgggctg     720
gcaacagang cctgcaatgc tgngggttga agttcctttt gagactaaat tctggcgacn     780
gggctttgct gggggtaaag ttct                                            804
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<210> 373
<211> 792
<212> DNA
<213> Homo Sapiens

<400> 373

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gccggccgcc cgcgcccgcc cgccgctgcc cccagctcga ggaggacatc gcggccaagg      60
agaagttgct gcgggtgtcg gaggacgagc gggaccgggt gctggaggag ctgcacaagg     120
cggaggacag cctcctggcc gccgaagagg ccgccgccaa ggctgaagcc gacgtagctt     180
ctctgaacag acgcatccag ctggttgagg aagagttgga tcgtgcccag gagcgtctgg     240
caacagcttt gcagaagctg gaggaagctg agaaggcagc agatgagagt gagagaggca     300
tgaaagtcat tgagagtcga gcccaaaaag atgaagaaaa aatggaaatt caggagatcc     360
aactgaaaga ggcaaagcac attgctgaag atgccgaccg caaatatgaa gaggtggccc     420
```

```
gtaagctggt catcattgag agcgacctgg aacgtgcaga ggagcgggct gagctctcag      480
aaggccaagt ccgacagctg gaagaacaat taagaataat ggatcagacc ttgaaagcat      540
taatggctgc agaggataag tactcgcaga aggaagacag atatgaggaa gagatcaagg      600
tcctttccga caagctgaag gaggctgaga ctcgggctga gttttgcgga aaaggtcagt      660
aactaaantt ggagaaaaag catttgatga cttagaagaa gaaagtggct tcatgcccaa      720
agaagaaaan cttatatgca tcaanatgct ggatcagact ttactggagt taaaccacat      780
gtgaaaaact tc                                                          792
```

```
        <210> 374
        <211> 745
        <212> DNA
        <213> Homo Sapiens
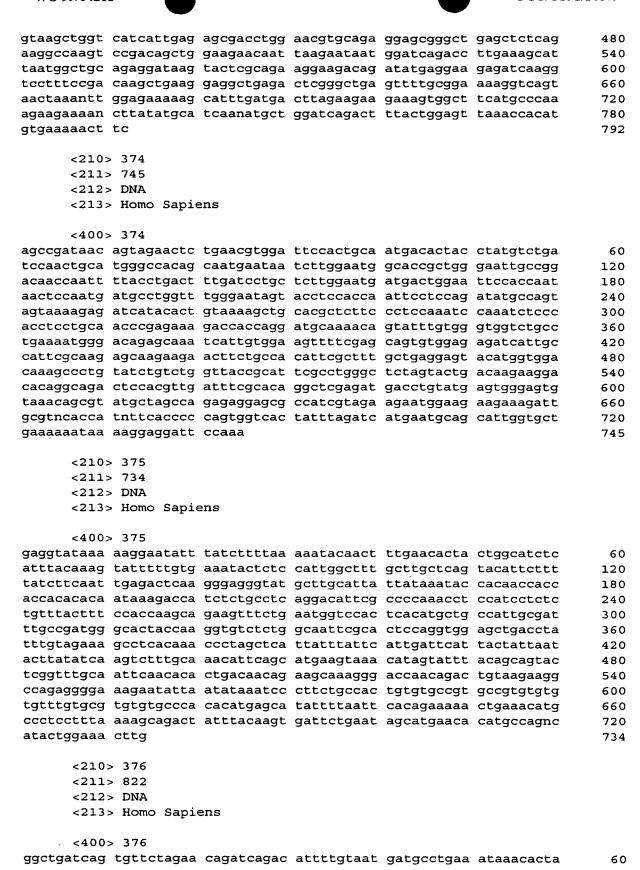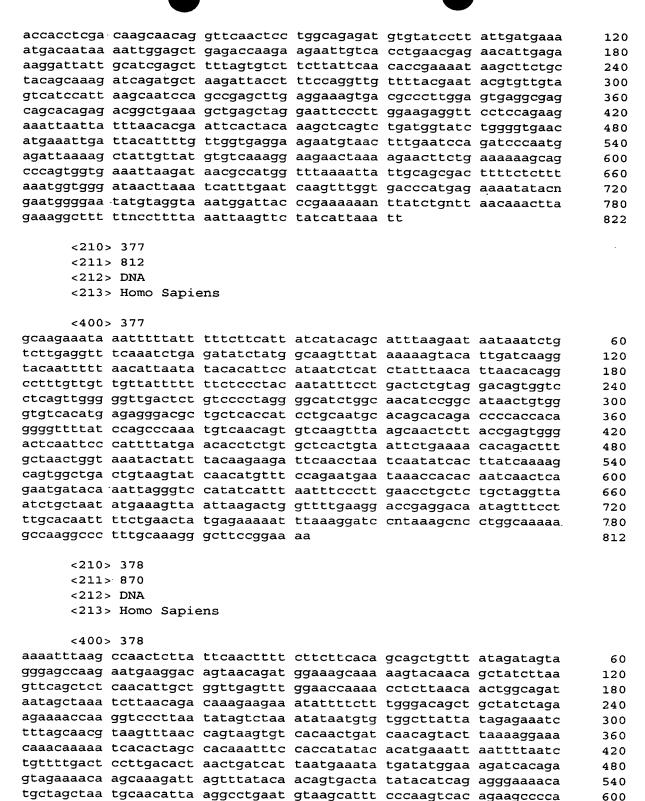

        <400> 374
agccgataac agtagaactc tgaacgtgga ttccactgca atgacactac ctatgtctga       60
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acaaccaatt ttacctgact ttgatcctgc tcttggaatg atgactggaa ttccaccaat      180
aactccaatg atgcctggtt tgggaatagt acctccacca attcctccag atatgccagt      240
agtaaaagag atcatacact gtaaaagctg cacgctcttc cctccaaatc caaatctccc      300
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tgaaaatggg acagagcaaa tcattgtgga agttttcgag cagtgtggag agatcattgc      420
cattcgcaag agcaagaaga acttctgcca cattcgcttt gctgaggagt acatggtgga      480
caaagccctg tatctgtctg gttaccgcat tcgcctgggc tctagtactg acaagaagga      540
cacaggcaga ctccacgttg atttcgcaca ggctcgagat gacctgtatg agtgggagtg      600
taaacagcgt atgctagcca gagaggagcg ccatcgtaga agaatggaag aagaaagatt      660
gcgtncacca tnttcacccc cagtggtcac tatttagatc atgaatgcag cattggtgct      720
gaaaaaataa aaggaggatt ccaaa                                            745
```

```
        <210> 375
        <211> 734
        <212> DNA
        <213> Homo Sapiens


        <400> 375
gaggtataaa aaggaatatt tatcttttaa aaatacaact ttgaacacta ctggcatctc       60
atttacaaag tattttttgtg aaatactctc cattggcttt gcttgctcag tacattcttt      120
tatcttcaat tgagactcaa gggagggtat gcttgcatta ttataaatac cacaaccacc      180
accacacaca ataaagacca tctctgcctc aggacattcg ccccaaacct ccatcctctc      240
tgtttacttt ccaccaagca gaagtttctg aatggtccac tcacatgctg ccattgcgat      300
ttgccgatgg gcactaccaa ggtgtctctg gcaattcgca ctccaggtgg agctgaccta      360
tttgtagaaa gcctcacaaa ccctagctca ttatttattc attgattcat tactattaat      420
acttatatca agtctttgca aacattcagc atgaagtaaa catagtattt acagcagtac      480
tcggtttgca attcaacaca ctgacaacag aagcaaaggg accaacagac tgtaagaagg      540
ccagagggga aagaatatta atataaatcc cttctgccac tgtgtgccgt gccgtgtgtg      600
tgtttgtgcg tgtgtgccca cacatgagca tattttaatt cacagaaaaa ctgaaacatg      660
ccctcctttta aaagcagact atttacaagt gattctgaat agcatgaaca catgccagnc      720
atactggaaa cttg                                                        734
```

```
        <210> 376
        <211> 822
        <212> DNA
        <213> Homo Sapiens


        <400> 376
ggctgatcag tgttctagaa cagatcagac attttgtaat gatgcctgaa ataaacacta       60
```

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accacctcga caagcaacag gttcaactcc tggcagagat gtgtatcctt attgatgaaa   120
atgacaataa aattggagct gagaccaaga agaattgtca cctgaacgag aacattgaga   180
aaggattatt gcatcgagct tttagtgtct tcttattcaa caccgaaaat aagcttctgc   240
tacagcaaag atcagatgct aagattacct ttccaggttg ttttacgaat acgtgttgta   300
gtcatccatt aagcaatcca gccgagcttg aggaaagtga cgcccttgga gtgaggcgag   360
cagcacagag acggctgaaa gctgagctag gaattccctt ggaagaggtt cctccagaag   420
aaattaatta tttaacacga attcactaca aagctcagtc tgatggtatc tggggtgaac   480
atgaaattga ttacattttg ttggtgagga agaatgtaac tttgaatcca gatcccaatg   540
agattaaaag ctattgttat gtgtcaaagg aagaactaaa agaacttctg aaaaaagcag   600
cccagtggtg aaattaagat aacgccatgg tttaaaatta ttgcagcgac ttttctcttt   660
aaatggtggg ataacttaaa tcatttgaat caagtttggt gacccatgag aaaatatacn   720
gaatggggaa ·tatgtaggta aatggattac ccgaaaaaan ttatctgntt aacaaactta   780
gaaaggcttt ttnccttta aattaagttc tatcattaaa tt   822
```

<210> 377
<211> 812
<212> DNA
<213> Homo Sapiens

<400> 377
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tcttgaggtt tcaaatctga gatatctatg gcaagtttat aaaaagtaca ttgatcaagg   120
tacaattttt aacattaata tacacattcc ataatctcat ctatttaaca ttaacacagg   180
cctttgttgt tgttattttt ttctccctac aatatttcct gactctgtag gacagtggtc   240
ctcagttggg ggttgactct gtcccctagg ggcatctggc aacatccggc ataactgtgg   300
gtgtcacatg agagggacgc tgctcaccat cctgcaatgc acagcacaga ccccaccaca   360
gggggtttta ccagcccaaa tgtcaacagt gtcaagttta agcaactctt accgagtggg   420
actcaattcc cattttatga acacctctgt gctcactgta attctgaaaa cacagacttt   480
gctaactggt aaatactatt tacaagaaga ttcaacctaa tcaatatcac ttatcaaaag   540
cagtggctga ctgtaagtat caacatgttt ccagaatgaa taaaccacac aatcaactca   600
gaatgataca ·aattagggtc catatcattt aatttccctt gaacctgctc tgctaggtta   660
atctgctaat atgaaagtta attaagactg gttttgaagg accgaggaca atagtttcct   720
ttgcacaatt ttctgaacta tgagaaaaat ttaaaggatc cntaaagcnc ctggcaaaaa.  780
gccaaggccc tttgcaaagg gcttccggaa aa   812
```

<210> 378
<211> 870
<212> DNA
<213> Homo Sapiens

<400> 378
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gggagccaag aatgaaggac agtaacagat ggaaagcaaa aagtacaaca gctatcttaa   120
gttcagctct caacattgct ggttgagttt ggaaccaaaa cctcttaaca actggcagat   180
aatagctaaa tcttaacaga caaagaagaa atattttctt tgggacagct gctatctaga   240
agaaaaccaa ggtcccttaa tatagtctaa atataatgtg tggcttatta tagagaaatc   300
tttagcaacg taagtttaac cagtaagtgt cacaactgat caacagtact taaaaggaaa   360
caaacaaaaa tcacactagc cacaaatttc caccatatac acatgaaatt aatttaatc   420
tgttttgact ccttgacact aactgatcat taatgaaata tgatatggaa agatcacaga   480
gtagaaaaca agcaaagatt agtttataca acagtgacta tatacatcag agggaaaaca   540
tgctagctaa tgcaacatta aggcctgaat gtaagcattt cccaagtcac agaagcccca   600
aagaactcct aaattacaaa ttcatcacat tacatgcatg caatggtcac ttttggttta   660
cccataaaag gatacncagt attttgctgn aaataccagg accacattta caatatatgc   720
aaaaaattag aatgcagngg taagntcctt anatttaagc cctcatatgn gncaacaggg   780
gaaaattcca tttatttta agaaaggaaa aanggagacn gggatataaa tactcggaga   840
```

```
aattccccga attaagaagn aacctctgca                                    870
```

```
        <210> 379
        <211> 837
        <212> DNA
        <213> Homo Sapiens


        <400> 379
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gccatgtccg ccgcctggtg aacgagaaag ctgcccatga gaaagatatg gaagaagcaa   120
aggagaagtt caagcaggcc ctttctggaa ttctcattca atttgagcag atagtggctg   180
tgtaccattc cgcctccaag cagaaggcat gggaccactt cacaaaagcc cagcggaaga   240
acatcagcgt gtggtgcaaa caagctgagg aaattcgcaa cattcataat gatgaattaa   300
tgggaatcag gcgagaagaa gaaatggaaa tgtctgatga tgaaatagaa gaaatgacag   360
aaacaaaaga aactgaggaa tcagccttag tatcacaggc agaagctctg aaggaagaaa   420
atgacagcct ccgttggcag ctcgatgcct accggaatga agtagaactg ctcaagcaag   480
aacaaggcaa agtccacaga gaagatgacc ctaacaaaga acagcagctg aaactcctgc   540
aacaagccct gcaaggaatg caacagcatc tactcaaagt ccaagaggaa tacaaaaaga   600
aagaagctga acttgaaaaa ctcaaagatg acaagttaca ggtggaaaaa atgttggaaa   660
atcttaaaga aaaggaaagc tgtgcttcta ngctgtgtgc ctcaaaccag gatagcgaat   720
accctnttga gaaagaccat gaacagcagt cctatcaaaa tcttgaaccg tgaagcactg   780
gttagtgggg gattatcttc cacanttcct tcatggtcac cccatttgga gccagcc      837


        <210> 380
        <211> 793
        <212> DNA
        <213> Homo Sapiens


        <400> 380
gttgcttagt ttcaggagtt ctctacatat tctggatatt aattcctttt catatatatg    60
atttgcaaat attttctccc attctgtggg gttttttac tttgttgata ttgtcttttg    120
agacacaatt tttttaatt ttcatgaagt ccaatttgtc tatttttttt cttttgttgc    180
ctattttgtg tcatcctcaa gaaaccatta ccaaatccag tgtttgaag ctttccccat     240
atgtttattt ctaagagcct tatggtttta ggccttacat ttaggccttt gatccatttt    300
gagttaattt ttgtatatgg tgttaggtaa ggacccaact tccttgtttg gcatgtggat    360
atccatttt cctaccacca tttgtttgaa aagattgtcc tttccccatt gaatggtctt     420
ggtagccttg tcaaaagtca actgatcata catcttattt atttccggcc tccctaatct    480
attctatcag actatatgtc tgtctttatg ccagtaccac attgttttga ttactgttag    540
tccatcttta ttatataaaa tcatgattac aagctcatac tataatatta tattttatac    600
ttttccaaat cttccatagc attgngttct tcttccacta aaaagcagac cgtttagagg    660
tataataagt agcctgaagt gggcaagtaa tgaaacaaac ttgagaatta cataaccttn   720
cagctataga gttcataatg gcccgaaagg gtaaagactg caggncgctt aattnccagg    780
cttttcacca ggc                                                       793


        <210> 381
        <211> 807
        <212> DNA
        <213> Homo Sapiens


        <400> 381
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aaatgggttc tctctagtaa accagattta ttactaccat aatgtgaaat gcagacgtga   120
gatgtttgac aaggatgtag taatgcttca gacaggtgtc tccatgatgg atccaaatca   180
tttcctgatg atcatgctca gccgctttga actttatcag attttcagta ctccagacta   240
tggaaaaaga tttagttctg agattaccca taaggatgtt gttcagcaga acaatactct   300
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-214-

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aatagaagaa atgctatacc tcattataat gcttgttgga gagagattta gtcctggagt      360
tggacaggta aatgctacag atgaaatcaa gcgagagatt atccatcagt tgagtatcaa      420
gcctatggct catagtgaat tggtaaagtc tttacctgaa gatgagaaca aggagactgg      480
catggagagt gtaatcgaag cagttgccca tttcaagaaa cctggattaa caggacgagg      540
catgtatgaa ctgaaaccag aatgtgccaa agagttcaac ttgnatttct atcactttc       600
aagggcagaa cagtccaagg cagaagaagc gcaacggaaa ttgaaaagac naaatagaga      660
agatacagca cttccacctt ccggggttgn ctncattctg gcctctggtt gcaagcctgg      720
gtaacanttt gcagtcagat gtcatggtgn gcatcatggg gaaccaattn tgcaatgggc      780
tgtggaacca taaanggata tgcctgg                                          807
```

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    <210> 382
    <211> 800
    <212> DNA
    <213> Homo Sapiens

    <400> 382
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aactgggtta aaaaaatcca agtttgtgtt ttttggtggt gcaataatta taaatgttgc      120
cagtcaatgc caaccagtgt ctgattggct tcctgtgcat gtccaatttc ctctgtgaca      180
ctgtgttggt gccagagctt ctgaatcttc ttgaatcgct ctttgcataa atgtaaagga      240
tttccccgtc tgagtccctg gtcggtctcc ccatagtcat caaggtaagg aggagaataa      300
aaacagcctt tggttttgcc agctaaaaat agcacctgac attcccgtac tctcaggaag      360
atgcccactc cagagccaca ggagtaggtg tgagctgtgc aggctcctac atcctcccct      420
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agagttgggg ctctgctctt atcaccacct gatttcgggc acgagaaatt ggatgcttga      540
ttaatgaggc tgctgtaatc ctctggaagg tttattaatt tgttaagatt ctcttggata      600
tcttatagca tctcttttca ccttctagaa atcttttaac tttcactggt accggcacca      660
acntttcaat cagggaattc antatctcac tattttcttt gaaaaaggca aatggaggtt      720
ggtttgggta agggaaagga aaggcttccn taaaaggttc aaaaagggct tngttnccag      780
gnaaccttgn aatgtcgggt                                                  800
```

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    <210> 383
    <211> 1203
    <212> DNA
    <213> Homo Sapiens

    <400> 383
ctgacatcta caccgaggtc cgcgagctgg tgagcctcaa gcaggagcag caggctttca       60
aggaggcggc ccgacacgga gcggctcgcc ctgcaggccc tcacggagaa gcttctcagg      120
tctgaggagt ccgtctcccg cctcccggag gagatccgga gactggagga agagctccgc      180
cagctgaagt ccgattccca cgggccgaag gaggacggag gcttcagaca ctcggaagcc      240
tttgaggcac tccagcaaaa gagtcaggga ctggactcca ggctccagca cgtggaggat      300
ggggtgctct ccatgcaggt ggcttctgcg cgccagaccg agagcctgga gtccctcctg      360
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acccgtggaa tcactccaga aggtgcagga gcaggtgcac acgctgctca gtcaggacca      600
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cagtttggtt gcatactcgg tcaaaataga aaccaacgag aacaatctgg aatcagccaa      780
gggtttacta gatgacctga ggaatgatct ggataggttg tttgtgaaag tggagaagat      840
tcacgaaaag gtctaaatga attgcgtgtg cagggcgcgg atttaaagtc caatttctca      900
tgaccaaaaa atgtgtggtt ttttcccatg tgtccctac cccccaattt cttgtcccct       960
cttaaagagc agttgtcacc acctgaacac caaggcattg tattttcatg cccagttaac     1020
ttatttacaa tatttaagtt ctctgcttct gcatttggtt ggtttcctga agcgcagccc     1080
```

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ctgtgaataa caggtggctt ttcatggatg tctctagtca gagaaaaatg ataaaggctt    1140
aaattgagga ttaacagaag cagattaacc tcagaaatcc tgtctggctg gcagatttca    1200
agt                                                                  1203
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<210> 384
<211> 2651
<212> DNA
<213> Homo Sapiens

<400> 384

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caagttcccc taagttctta gaggactgct ttgccttttg atctgagagt tgcaaagttc     120
cataaagaat ggcccttgtg gataagcaca aagtcaagag acagcgattg gacagaattt     180
gtgaaggtat ccgcccccag atcatgaacg gcccctgca ccccgccc ctggtggcgc        240
tgctggacgg ccgcgactgc actgtggaga tgcccatcct gaaggacctg gccactgtgg     300
ccttctgtga cgcgcagtcg acgcaggaaa tccacgagaa ggttctaaac gaagccgtgg     360
gcgccatgat gtaccacacc atcaccctca ccagggagga cctggagaag ttcaaggccc     420
tgagagtgat cgtgcggata ggcagtggct atgacaacgt ggacatcaag gctgccggcg     480
agctcggaat tgccgtgtgc aacatcccgt ctgcagccgt ggaagagaca gcggactcta     540
ccatctgcca catcctcaac ctgtaccgga ggaacacgtg gctgtaccag gcactgcggg     600
aaggcacgcg ggttcagagc gtggagcaga tccgcgaggt ggcctcggga gcggccgca      660
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gagccaaggc ctttggattc agcgtcatat tttatgaccc ctacttgcag gatgggatcg     780
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gcactcctca cactgcctgg tacagcaagc aggcgtcact ggagatgagg gaggcagctg    1140
ccactgagat ccgccgagcc atcacaggtc acatcccaga aagcttaaga aactgtgtga    1200
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gacttcctgc agccatggaa gggatcatcc cctgnaaggc atcccagtga ctcacaaccc    1380
tcccgacagt ggcacatcct ttcccaaggg ccttntccca accagcccac aaaacacggg    1440
gccaatcgag agcacccaa cgagcaatag cagagaatgc cagaaggtaa tcactcagat     1500
acacttggga ccaagagnca gtgaaaaata gatgaactaa gagaaaaga atcggatggt     1560
ctttgtaact tgattctgga catatgcatc attgatgttg cagtgttgaa actacaagag    1620
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taacgaccaa cttctgttat tgtgtgttaa gtttttcatc tgtgcatcaa atcacaaaaa    1740
gaataaatag agctttttcc tttatcagtc ccttgggcac agcaggtcct gaacaccctg    1800
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tactgagcgg gcaagtcggt tgtaagttca gtaaaccct ctgatgatgc aaaaaaaaaa     2100
aaaagtatt aagtttcaca agctgtttgt actcaaatat attttctcag tttcagatcc     2160
tctgctattt tattgagtgg aaagtcttga gctaaaggg ttcaagaaga ataatgttgc     2220
atttccttat gtctcaggaa acacttttta tggtaacttg tcagattgtc tatgaacaaa    2280
cccacttttt tagacattga taaagtcttc ttcacgtgat attttataca agaacacttc    2340
agatgtatta gatgtgactg attttaacaa atcctattag atttgtatca actagttaca    2400
tgttctattc atagtctttt gtgaatcatt gccttttgt ttaaaaagat ggcctatttt     2460
gagcctttgt ataggtacat tcctgttttt gtgacaaaag aaaaactta aaattgtccc     2520
aaacagaaaa ataatggcta tcagaagtat gttttgtttt agtgtgagtt accgttactg    2580
tatttgttta ttgtaaaggt ggacatttag cgttcagtgc agttttcaat aaaaagtaat    2640
taaaatttgt t                                                        2651
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<210> 385
<211> 804
<212> DNA
<213> Homo Sapiens
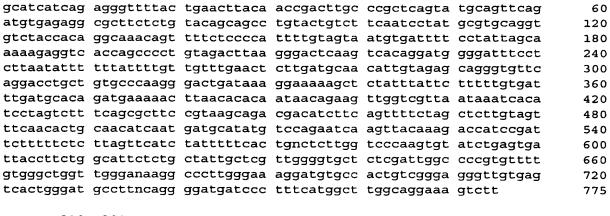
<400> 385
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cataaagaat ggcccttgtg dataagcaca aagtcaagag acagcgattg gacagaattt     180
gtgaaggtat ccgcccccag atcatgaacg gcccctgca cccccgcccc ctggtggcgc      240
tgctggacgg ccgcgactgc actgtggaga tgcccatcct gaaggacctg gccactgtgg     300
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gcgccatgat gtaccacacc atcaccctca ccagggagga cctggagaag ttcaaggccc     420
tgagagtgat cgtgcggata ggcagtggct atgacaacgt ggacatcaag gctgccggcg     480
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ccatctgcca catcctcaac ctgtaccgga ggaacacgtg gctgtaccag gcactgcggg     600
aaggcacgcg ggttcagagc gtggagcaga tcccgcgagg tggcctcggg agcgggccgc     660
atncgtgggg agacgcttgg gcctcattgg ctttggtccg caccggggca agccggttgc     720
agttcgagcc aaggcctttg gattcagcgc atattttatg accctacttt gcanggatgg     780
gatcgaaccg gtcccntggc cgtg                                             804


<210> 386
<211> 782
<212> DNA
<213> Homo Sapiens

<400> 386
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gtctaccaca ggcaaacagt tttctcccca ttttgtagta atgtgatttt cctattagca     180
aaaagaggtc accagcccct gtagacttaa gggactcaag tcacaggatg gggatttcct     240
cttaatattt tttattttgt tgtttgaact cttgatgcaa cattgtagag cagggtgttc     300
aggacctgct gtgcccaagg gactgataaa ggaaaaagct ctatttattc tttttgtgat     360
ttgatgcaca gatgaaaaac ttaacacaca ataacagaag ttggtcgtta ataaatcaca     420
tcctagtctt tcagcgcttc cgtaagcaga cgacatcttc agttttctag ctcttgtagt     480
ttcaacactg caacatcaat gatgcatatg tccagaatca gttacaaaga ccatccgatt     540
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taccttctgg cattctctgc tattgctcgg tggggtgctc tcgatggccc cgtggtttgn     660
gggctggttg ggaanagggc ncttgggaaa ggaagtgcca ctgtccggaa ggntggtgaa     720
gtcactggga ngcctccagg gatgannccc tttccatggg ntgcaaggaa agncttcctg     780
ga                                                                     782


<210> 387
<211> 865
<212> DNA
<213> Homo Sapiens

<400> 387
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agagcgactg cgtctccttg cactgcaatc tcaacgaaca taaccaccac ctcatcaatg     120
actttaccat aaagcagatg aggcagggag cattccttgt gaacgcaccc cgtggtggcc     180
tggtggacga gaaagcctta gcacaagctc tcaaggaggg caggatacga ggggcagccc     240
tctatgtgcg tgagtcggag cccttttagct ttgctcaggg tccgttgaaa gatgcaccga     300
atcttatctg cactcctcac actgcctggt acagcaagca ggcgtcactg gagatgaggg     360
aggcagctgc cactgagatc cgccgagcca tcacaggtca catcccagaa agcttaagaa     420
```

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actgtgtgaa caaggaatta tctgtcacat cagcgccttg gtcagtaata gaccagcaag      480
caattcatcc tgagctcaat ggtgccacat acagatatcc gccaggcatc gtgggcgtgg      540
ctccaggagg acttcctgca gccttggaag ggatcatccc tggaggcatc ccagtgactc      600
acaacctccc aacagtggca catccttccc aggcgccctc tcccaaccag cccacaaaac      660
acggggacaa tcgagagcac ttcaacgagc aatagcagag aatgcccgga aggtaatcat      720
tcagatacat ttgggaccna gagatagtga aaaatgatga acttagagaa aaaggaatat      780
gaaggncttt ggaactggat cttggactta tgcatcattg atgcttgcaa gtggttaaaa      840
ctnccaggag ctttgaaaac tggaa                                           865
```

        <210> 388
        <211> 753
        <212> DNA
        <213> Homo Sapiens

        <400> 388

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nctcatagga ctatttngna ncacttcttt gnaaatatca tttngttagg tnatnggcaa      120
ancagtttca nggttcactt ccctcccttg anccaggncc aggncatttn gctttggggn      180
aaattaaaat canaattcta aaagttganc anctttgttt tttttnaatn gactnanctn      240
tancccacca ttacaactta nggacggcat gactngataa ngangagctt gngtgaggtt      300
ttgagttttc aattaanctt tgnatcacat gaggnaatng ncagcattct tgagncggt       360
tatggaatag gcagatanaa ccctgtagta ccaanagttg gaaatnggct aatngacaac      420
gcactngcct taaacatctc angtagagaa cttttacatt agngagangt ncttgaattt      480
cananctcac caaattttaa ttactttta tngaaaactg cagngaangc taaaggtcta       540
cgtttacaat aaacaaatcc agtancagta actcacactg aaccaaanca tacttctgat      600
agccattatt tttcngcttg gggacaattt taaagntttt cttttggccc aaaaaccngg      660
aatgtatccc aaacnaaggc tcaaaagagg cccatcnttt tcaaacaaaa aagggcantg      720
gattcncaaa aanactggng aaatagaaca tgg                                   753
```

        <210> 389
        <211> 737
        <212> DNA
        <213> Homo Sapiens

        <400> 389

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gtggctatga caacgtggac atcaaggctg ccggcgagct cggaattgcc gtgtgcaaca      180
tcccgtctgc agccgtggaa gagacagcgg actctaccat ctgccacatc ctcaacctgt      240
accggaggaa cacgtggctg taccaggcac tgcgggaagg cacgcgggtt cagagcgtgg      300
agcagatccg cgaggtggcc tcgggagcgg cccgcatccg tggggagacg ctgggcctca      360
ttggctttgg tcgcacgggg caggcggttg cagttcgagc caaggccttt ggattcagcg      420
tcatatttta tgacccctac ttgcaggatg ggatcgagcg gtccctgggc gtgcagaggg      480
tctacaccct gcaggatttg ctgtatcaga gcgactgcgt ctccttgcac tgcaatctca      540
acgaacataa ccaccacctc atcaatgact ttaccataaa gcagatgagg cagggagcat      600
tccttgtgaa cgcagcccgt ggcggcctgg tggacgagaa agccttagca caagccctna      660
agganggcag gatacnaagg ggcaancctt gacgtgcatg agtcaaaanc ctttagcttt      720
tgcttaaggg tccgttg                                                     737
```

        <210> 390
        <211> 775
        <212> DNA
        <213> Homo Sapiens

        <400> 390

●   ●

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gtctaccaca ggcaaacagt tttctcccca ttttgtagta atgtgatttt cctattagca     180
aaaagaggtc accagcccct gtagacttaa gggactcaag tcacaggatg gggatttcct     240
cttaatattt tttatttttgt tgtttgaact cttgatgcaa cattgtagag cagggtgttc     300
aggacctgct gtgcccaagg gactgataaa ggaaaaagct ctatttattc tttttgtgat     360
ttgatgcaca gatgaaaaac ttaacacaca ataacagaag ttggtcgtta ataaatcaca     420
tcctagtctt tcagcgcttc cgtaagcaga cgacatcttc agttttctag ctcttgtagt     480
ttcaacactg caacatcaat gatgcatatg tccagaatca agttacaaag accatccgat     540
tcttttttctc ttagttcatc tattttttcac tgnctcttgg tcccaagtgt atctgagtga     600
ttaccttctg gcattctctg ctattgctcg ttggggtgct ctcgattggc ccgtgttttt     660
gtgggctggt tgggananaagg cccttgggaa aggatgtgcc actgtcggga gggttgtgag     720
tcactgggat gccttncagg ggatgatccc tttcatggct tggcaggaaa gtctt          775
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        <210> 391
        <211> 776
        <212> DNA
        <213> Homo Sapiens

        <400> 391
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tgcactgtgg agatgcccat cctgaaggac ctggccactg tggccttctg tgacgcgcag     180
tcgacgcagg aaatccacga gaaggttcta aacgaagccg tgggcgccat gatgtaccac     240
accatcaccc tcaccaggga ggacctggag aagttcaagg ccctgagagt gatcgtgcgg     300
ataggcagtg gctatgacaa cgtggacatc aaggctgccg gcgagctcgg aattgccgtg     360
tgcaacatcc cgtctgcagc cgtggaagag acagcggact ctaccatctg ccacatcctc     420
aacctgtacc ggaggaacac gtggctgtac caggcactgc gggaaggcac gcgggttcag     480
agcgtggagc agatccgcga ggtggcctcg ggagcggccc gcatccgtgg ggagacgctg     540
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gcagaaggtc tacaccctgc aggatttgct gtatcagaac cgactgcgtc ttctttcact     720
tgcaatntta acgaacataa ccacccactt tatcaatgga cttttcccta aagcca        776
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        <210> 392
        <211> 909
        <212> DNA
        <213> Homo Sapiens

        <400> 392
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tttttctgtt tgggacaatt ttaaagtttt tcttttgtca caaaaacagg aatgtaccta     180
tacaaaggct caaaataggc catctttttа aacaaaaagg caatgattca caaaagacta     240
tgaatagaac atgtaactag ttgatacaaa tctaatagga tttgttaaaa tcagtcacat     300
ctaatacatc tgaagtgttc ttgtataaaa tatcacgtga agaagacttt atcaatgtct     360
aaaaaagtgg gtttgttcat agacaatctg acaagttacc ataaaaagtg tttcctgaga     420
cataaggaaa tgcaacatta ttcttcttga accctttttag ctcaagactt tccactcaat     480
aaaatagcag aggatctgaa actgagaaaa tatatttgag tacaaacagc ttgtgaaact     540
taatactttt tttttttttt tgcatcatca gagggttttta ctgaacttac aaccgacttg     600
cccgctcagt atgcagttca naagtganag gcgcttctct gtacagcaac ctggactggc     660
ttcaatccta tgcgtgcagg tgtctaccca gggcnaacag ttttctcccc attttggtag     720
taatggggat tttcctatta gccaaaaaag angtcaccag nccctgnaga cttaaaggga     780
cctcaaggtc nccaggaatg ggggatttcc ctcntaaaaa atttttaatt ttggggggtt     840
gnaactcttg gangccacca tttgtaaaac cangggggttc aagaacctgg ntgggcccca     900
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-219-

agggacctg 909

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                    <211> 769
                    <212> DNA
                    <213> Homo Sapiens
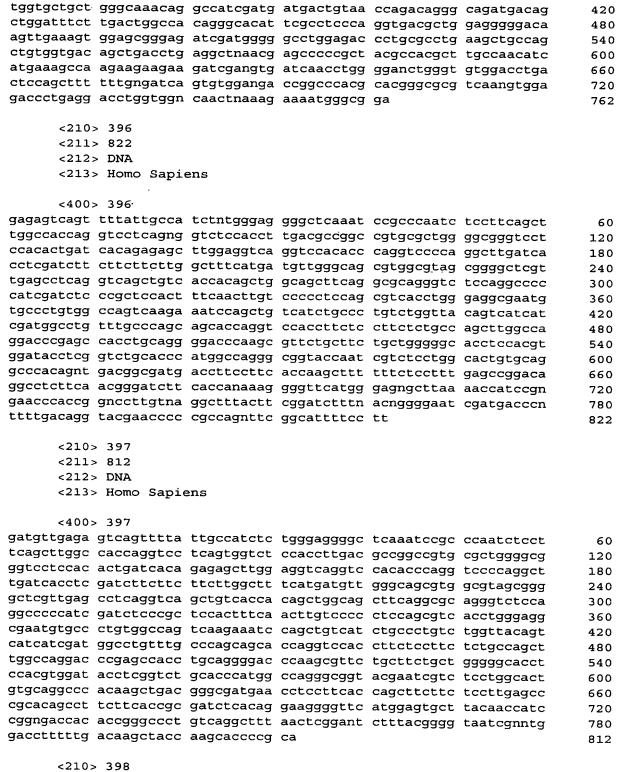
                    <400> 393
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tttctgtttg ggacaatttt aaagtttttc ttttgtcaca aaaacaggaa tgtacctata     180
caaaggctca aaataggcca tctttttaaa caaaaaggca atgattcaca aaagactatg     240
aatagaacat gtaactagtt gatacaaatc taataggatt tgttaaaatc agtcacatct     300
aatacatctg aagtgttctt gtataaaata tcacgtgaag aagactttat caatgtctaa     360
aaaagtgggt ttgttcatag acaatctgac aagttaccat aaaaagtgtt tcctgagaca     420
taaggaaatg caacattatt cttcttgaac ccttttagct caagactttc cactcaataa     480
aatagcagag gatctgaaac tgagaaaata tatttgagta caaacagctt gtgaaactta     540
atacttttt tttttttttg catcatcana gggttttact gaacttacaa ccgacttgcc     600
cgctcagtat gccagttcan atgtgaaagg cgctttntg tcagcagcct gnactggctt     660
caatcctatg cgtgcaggng tttacccaca ggcaaacagg ttttctnccc catttttgga     720
agtaatgggg attttcctat tagcaaaaaa gaaggncacc aanccctg               769

                    <210> 394
                    <211> 813
                    <212> DNA
                    <213> Homo Sapiens

                    <400> 394
ggaagatggc ggagctgcgc gtgctcgtag ctgtcaagag ggtcatcgac tacgccgtga      60
agatccgagt gaagcctgac aggaccggtg tggtcacgga tggtgtgaag cactccatga     120
accccttctg tgagatcgcg gtggaggagg ctgtgcggct caaggagaag aagctggtga     180
aggaggtcat cgccgtcagc tgtgggcctg cacagtgcca ggagacgatt cgtaccgccc     240
tggccatggg tgcagaccga ggtatccacg tggaggtgcc cccagcagaa gcagaacgct     300
tgggtcccct gcaggtggct cgggtcctgg ccaagctggc agagaaggag aaggtggacc     360
tggtgctgct gggcaaacag gccatcgatg atgactgtaa ccagacaggg cagatgacag     420
ctggatttct tgactggcca cagggcacat tcgcctccca ggtgacgctg gagggggaca     480
agttgaaagt ggagcgggag atcgatgggg gcctggagac cctgcgcctg aagctgccag     540
ctgtggtgac agctgacctg aggctcaacg agccccgcta cgccacgctg cccaacatca     600
tgaaagccaa gaagaagaag atcgaggtga tcaagcctgg ggacctgggt gtggacctga     660
cctccaagct ctctgtgatc agtgtggagg acccgcccca gcgcacggcc ggcgtcaagg     720
tggagaccac tgaggacctg gtggccaagc tgaaggagat tgggcggatt tgagcccctc     780
ccagagatgg caataaaact gactctcaac atc                               813

                    <210> 395
                    <211> 762
                    <212> DNA
                    <213> Homo Sapiens

                    <400> 395
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agatccgagt gaagcctgac aggaccggtg tggtcacgga tggtgtgaag cactccatga     120
accccttctg tgagatcgcg gtggaggagg ctgtgcggct caaggagaag aagctggtga     180
aggaggtcat cgccgtcagc tgtgggcctg cacagtgcca ggagacgatt cgtaccgccc     240
tggccatggg tgcagaccga ggtatccacg tggaggtgcc cccagcagaa gcagaacgct     300
tgggtcccct gcaggtggct cgggtcctgg ccaagctggc agagaaggag aaggtggacc     360
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agttgaaagt  ggagcgggag  atcgatgggg  gcctggagac  cctgcgcctg  aagctgccag      540
ctgtggtgac  agctgacctg  aggctnaacg  agcccccgct  acgccacgct  tgccaacatc      600
atgaaagcca  agaagaagaa  gatcgangtg  atcaacctgg  gganctgggt  gtggacctga      660
ctccagcttt  tttgngatca  gtgtgganga  ccggcccacg  cacgggcgcg  tcaangtgga      720
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        <210> 396
        <211> 822
        <212> DNA
        <213> Homo Sapiens

        <400> 396·
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ccacactgat  cacagagagc  ttggaggtca  ggtccacacc  caggtcccca  ggcttgatca      180
cctcgatctt  cttcttcttg  gctttcatga  tgttgggcag  cgtggcgtag  cggggctcgt      240
tgagcctcag  gtcagctgtc  accacagctg  gcagcttcag  gcgcagggtc  tccaggcccc      300
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gcccacagnt  gacggcgatg  accttccttc  accaagcttt  tttctccttt  gagccggaca      660
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        <210> 397
        <211> 812
        <212> DNA
        <213> Homo Sapiens

        <400> 397
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ggtcctccac  actgatcaca  gagagcttgg  aggtcaggtc  cacacccagg  tccccaggct      180
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catcatcgat  ggcctgtttg  cccagcagca  ccaggtccac  cttctccttc  tctgccagct      480
tggccaggac  ccgagccacc  tgcagggac  ccaagcgttc  tgcttctgct  ggggcacct      540
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gacctttttg  acaagctacc  aagcaccccg  ca                                     812
```

        <210> 398
        <211> 751
        <212> DNA
        <213> Homo Sapiens
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<400> 398

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ggtcctccac actgatcaca gagagcttgg aggtcaggtc cacacccagg tccccaggct     180
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tgtgcaggcc cacaagntga cggggaatga cctccttnac caagcttntt ntccttgacc     660
cgaaaagctt cttcaccgng aacttncaga angggttcaa tggantgctt tacacattcg     720
ggaccacccc cgggccttgt caggctttaa t                                   751
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<210> 399
<211> 800
<212> DNA
<213> Homo Sapiens

<400> 399

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ggacaagnct tcttcaaccg ggatctcaca agaaggggtc atggagtgct ttcacaccat     720
tcgggancac aaccggncct gncaaggctt naacttggac ntttacggng taatccgatg     780
aacccttttt gacagntacc                                                800
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<210> 400
<211> 810
<212> DNA
<213> Homo Sapiens

<400> 400

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ggaagactga attgaaagaa gatagctcta gcagtgaagc agaggaagaa gaggaggagg      60
aagatgatga aaagaaaag gaggataata gcagtgaaga agaggaagaa atagaaccat     120
ttccagaaga aagggagaac tttcttcagc aattgtacaa atttatggaa gatagaggta     180
cacctattaa caaacgacct gtacttggat atcgaaattt gaatctcttt aagttattca     240
gacttgtaca caaacttgga ggatttgata atattgaaag tggagctgtt tggaaacaag     300
tctaccaaga tcttggaatc cctgtcttaa attcagctgc aggatacaat gttaaatgtg     360
cttataaaaa atnctnatnt ggctntgngg agtactgtac atcagccaac attgaatttc     420
agatggcatt gccagagaaa gttgttaaca agcaatgtaa ggagtgtgaa aatgtaaaag     480
aaataaaagt taaggaggaa aatgaaacag agatcaaaga aataaagatg gaggaggaga     540
ggaatataat accaagagaa gaaaagccta ttgaggatga aattgaaaga aaagaaaata     600
ttaagccctc tctgggaagt aaaaagaatt tattagaatc tatacctaca cattctgatc     660
aggaaaaaga agttacatta aaaaaccnga agacaatgaa aatctggcc gaccaagatg     720
atgacncaac tagggtagat gaatccctca accntaaggt agaactgagg aagaaaaagc     780
```

caaatctgga tncnatgaat gggattaagc   810

           <210> 401
           <211> 860
           <212> DNA
           <213> Homo Sapiens

           <400> 401

```
gggaggcccg cctagccacc ctgaccagcc gtgtagaaga agacagcaac agagattata   60
aaaaactcta tgagagtgct ctgactgaaa accaaaaact gaaaacaaaa cttcaggaag  120
cccagctaga gctagcagat ataaagtcca agcttgagaa ggtggcccag cagaaacaag  180
aaaagacctc tgaccgatca tcagtgctgg agatggagaa acgggagagg cgagccttgg  240
agcgcaaaat gtcagaaatg gaggaagaaa tgaaggtgtt aacagaactg aaatccgaca  300
accagaggct gaaagatgaa aatggtgccc tcatcagagt catcagcaaa ctgtccaagt  360
aggctaggct ccagatttat gaggaaagaa agggacagca tttgctgccc ccacccctct  420
tttccagtcc ttgccttcca accaaaagaa atggatgttt tggtggaagg acacttcttt  480
ctatcaccct cttcagtcac ctctatacac tctacatttt ctctgcactt tcaatgccct  540
gttcttccaa acccctatcc caagttttat gacagtttta attgaagcat gattgtggta  600
attcgagcca tctggagaat gctctgggga gtacaccagg ctcagctgtg gacccctcaa  660
cttcctgctg ctcagctact ttgtccacat tggatttggt ccaaacatgt aagactttct  720
accctnatca gtatccttca gctttttaca ttaacccagt gnccttctga tataggtgaa  780
gtccttgngg gtagccactt tcaggatcct ggaatggggt gcccaagaga aacngccagg  840
atggttgaat tggatcattc                                              860
```

           <210> 402
           <211> 779
           <212> DNA
           <213> Homo Sapiens

           <400> 402

```
gagatggagt cttgctctgt cacccaggct ggagtgcagt ggcgtgatca aggctcactg   60
caagctccgc ctcccgggtt cacgccattc tcctgcctca gcctcccgag tagctgggac  120
tacaggcgcc cgccaccacg cctggctaat tttttgtatt tttagtagag attgggtttc  180
accgtgttag ccaggatggt ctcgaactcc tgacctcgtg atctgtccac ctcggcctcc  240
tgaagtgctg ggattacagg catgagccac tgcacctggt ggaattggga tcttgaatta  300
cagcttctag tttaaacagc atgtggtgtt tcagagggag gaccatggag agctacatgt  360
catgttagga aagaattaac agacagaggt agtatatatt aagggaatga accactctaa  420
acactgaata tcactggcaa ccctaaaatg atgaggattt aatgacttgc acactcaagt  480
gaaccaaggg ataaaactcc tacaaaaaga aaatactgta agtattaatg ctaggttatc  540
atcaaganct aatggtttaa ttttgcactg gatttgnatt cttttccagg cctggacatg  600
atattttaaa ggctggttnt ggctagagga ggatgggcca anatgtgaca gggangaaaa  660
gcatgcctta tgaggaatga cttaaaggga ctagaggtaa cagcagctca aaagtaagaa  720
ctgagggggga aaaccccccca ctgnaccata tntnaagggc cgttaaagaa ttgcagaat  779
```

           <210> 403
           <211> 1443
           <212> DNA
           <213> Homo Sapiens

           <400> 403

```
cttcaggaac tgttaaaaga aaaacaacaa gaagtaaagc agctacagaa ggactgcatc   60
aggtatcaag agaaaattag tgctctggag agaactgtta aagctctaga atttgttcaa  120
actgaatctc aaaaagattt ggaaataacc aaagaaaatc tggctcaagc agttgaacac  180
cgcaaaaagg cacaagcaga attagctagc ttcaaagtcc tgctagatga cactcaaagt  240
gaagcagcaa gggtcctagc agacaatctc aagttgaaaa aggaacttca gtcaaataaa  300
```

```
gaatcagtta aaagccagat gaaacaaaag gatgaagatc ttgagcgaag actggaacag    360
gcagaagaga agcacctgaa agagaagaag aatatgcaag agaaactgga tgctttgcgc    420
agagaaaaag tccacttgga agagacaatt ggagagattc aggttacttt gaacaagaaa    480
gacaaggaag ttcagcaact tcaggaaaac ttggacagta ctgtgaccca gcttgcagcc    540
tttactaaga gcatgtcttc ccttcaggat gatcgtgaca gggtgataga tgaagctaag    600
aaatgggaga ggaagtttag tgatgcgatt caaagcaaag aagaagaaat tagactcaaa    660
gaagataatt gcagtgttct aaaggatcaa cttagacaga tgtccatcca tatggaagaa    720
ttaaagatta acatttccag gcttgaacat gacaagcaga tttgggagtc caaggcccag    780
acagaggtcc agcttcagca gaaggtctgt gatactctac agggggaaaa caaagaactt    840
ttgtcccagc tagaagagac acgccaccta taccacagtt ctcagaatga attagctaag    900
ttggaatcag aacttaagag tctcaaagac cagttgactg atttaagtaa ctctttagaa    960
aaatgtaagg aacaaaaagg aaacttggaa gggatcataa ggcagcaaga ggctgatatt   1020
caaaattcta agttcagtta tgaacaactg gagactgatc ttcaggcctc cagagaactg   1080
accagtaggc tgcatgaaga aataaatatg aaagagcaaa agattataag cctgctttct   1140
ggcaaggaag aggcaatcca agtagctatt gctgaactgc gtcagcaaca tgataaagaa   1200
attaaagagc tggaaaacct gctgtnccag gaggaagagg agaatattgg tttagaagag   1260
gagaacaana angcttgtgg ttaaaaccca atcagcttat gggaacactt gaaaaccatc   1320
aaaanggaaa catttagnca aaaggcncag ttggattcct tggtnaaatc ctgncttctn   1380
ttccaaatgg atccgagaac cgcntagtgg ggggactatt caccagctgg gaanagccga   1440
ctt                                                                 1443
```

```
        <210> 404
        <211> 819
        <212> DNA
        <213> Homo Sapiens


        <400> 404
gcgattcaaa gcaaagaaga agaaattaga ctcaaagaag ataattgcag tgttctaaag     60
gatcaactta gacagatgtc catccatatg gaagaattaa agattaacat ttccaggctt    120
gaacatgaca agcagatttg ggagtccaag gcccagacag aggtccagct tcagcagaag    180
gtctgtgata ctctacaggg ggaaaacaaa gaacttttgt cccagctaga gagacacgc    240
cacctatacc acagttctca gaatgaatta gctaagttgg aatcagaact taagagtctc    300
aaagaccagt tgactgattt aagtaactct ttagaaaaat gtaaggaaca aaaaggaaac    360
ttggaaggga tcataaggca gcaagaggct gatattcaaa attctaagtt cagttatgaa    420
caactggaga ctgatcttca ggcctccaga gaactgacca gtaggctgca tgaagaaata    480
aatatgaaag agcaaaagat tataagcctg ctttctggca aggaagaggc aatccaagta    540
gctattgctg aactgcgtca gcaacatgat aaagaaatta agagctgga aaacctgctg    600
tnccaggagg aagaggagaa tattggttta gaagaggaga caanaaagc ttgtggttaa    660
aacccaatca gcttatggga cacttgaaa accatcaaaa nggaaacatt tagncaaaag    720
gcncagttgg attccttggt naaatcctgn cttctnttcc aaatggatcc gagaaccgcn    780
tagtgggggg actattcacc agctgggaan agccgactt                           819
```

```
        <210> 405
        <211> 761
        <212> DNA
        <213> Homo Sapiens


        <400> 405
ctgaaaataa ttttattatt ttacagttgt tcaggaaact tcccaggatg ttgtaaccaa     60
natttaatca ccacagtana tttanagcan atcagtcagc ccacttgtct tccctcttct    120
ttaggganag gctaggcagt gaacacatca tgtatgcaat ganaaaataa ccaactggta    180
ggatggggga ggggaggga ggcagggaat aggcncaaat ggaattctat cctggctgtc    240
cttctcaggt ctatctatat ttaattttgt cttctctata ttctccttcc attgccacag    300
agggcanaga caatggggct gaaaaactgt ataactgnc actaacagca aagtanctta    360
gtncttcaag aggtcaggag ttgcagtgtg gtgttanacc agtcanactc ctggctgaaa    420
```
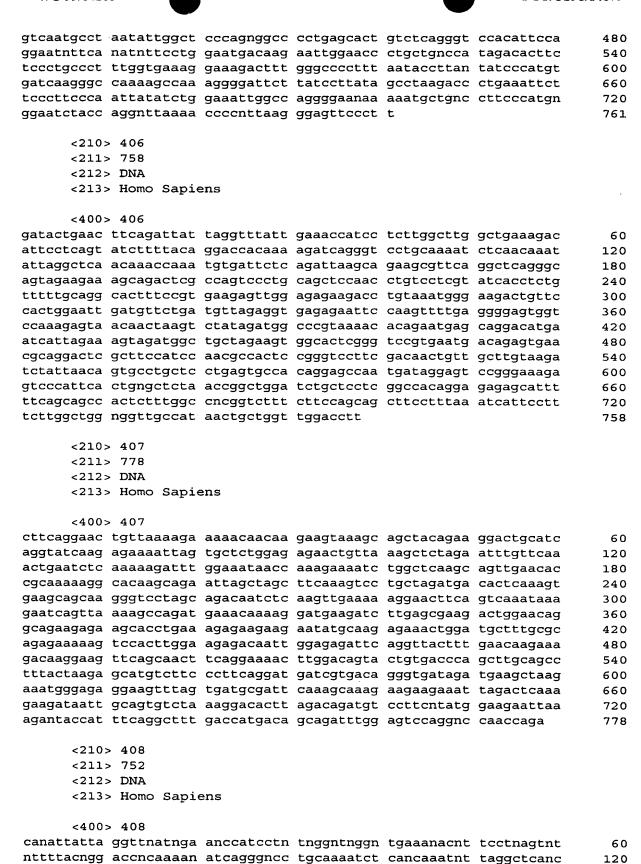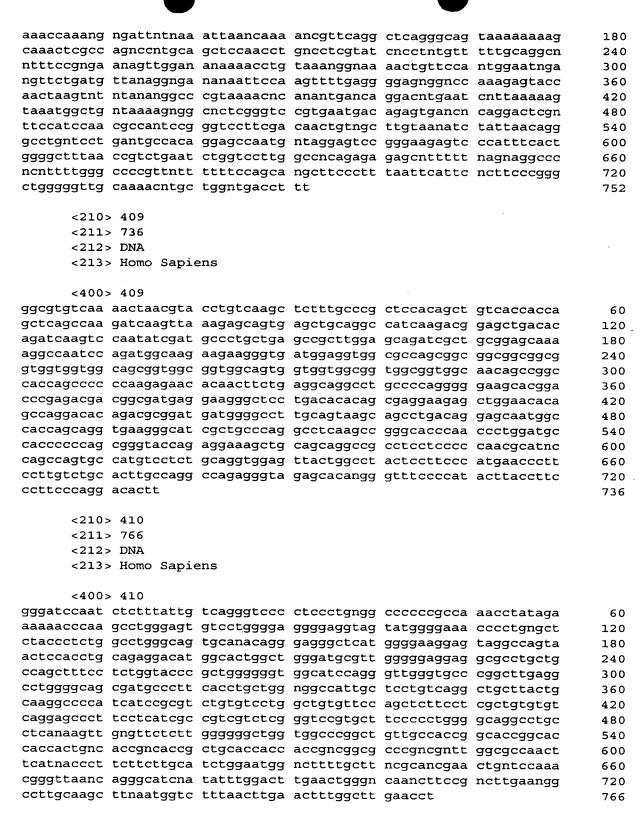
```
gtcaatgcct aatattggct cccagnggcc cctgagcact gtctcagggt ccacattcca    480
ggaatnttca natnttcctg gaatgacaag aattggaacc ctgctgncca tagacacttc    540
tccctgccct ttggtgaaag gaaagacttt gggccccttt aataccttan tatcccatgt    600
gatcaagggc caaaagccaa aggggattct tatccttata gcctaagacc ctgaaattct    660
tcccttccca attatatctg gaaattggcc aggggaanaa aaatgctgnc cttcccatgn    720
ggaatctacc aggnttaaaa ccccnttaag ggagttccct t                        761
```

        <210> 406
        <211> 758
        <212> DNA
        <213> Homo Sapiens

        <400> 406

```
gatactgaac ttcagattat taggtttatt gaaaccatcc tcttggcttg gctgaaagac     60
attcctcagt atcttttaca ggaccacaaa agatcagggt cctgcaaaat ctcaacaaat    120
attaggctca acaaaccaaa tgtgattctc agattaagca gaagcgttca ggctcagggc    180
agtagaagaa agcagactcg ccagtccctg cagctccaac ctgtcctcgt atcacctctg    240
tttttgcagg cactttccgt gaagagttgg agagaagacc tgtaaatggg aagactgttc    300
cactggaatt gatgttctga tgttagaggt gagagaattc caagttttga ggggagtggt    360
ccaaagagta caactaagt ctatagatgg cccgtaaaac acagaatgag caggacatga    420
atcattagaa agtagatggc tgctagaagt ggcactcggg tccgtgaatg acagagtgaa    480
cgcaggactc gcttccatcc aacgccactc cgggtccttc dacaactgtt gcttgtaaga    540
tctattaaca gtgcctgctc ctgagtgcca caggagccaa tgataggagt ccgggaaaga    600
gtcccattca ctgngctcta accggctgga tctgctcctc ggccacagga gagagcattt    660
ttcagcagcc actctttggc cncggtcttt cttccagcag cttcctttaa atcattcctt    720
tcttggctgg nggttgccat aactgctggt tggacctt                            758
```

        <210> 407
        <211> 778
        <212> DNA
        <213> Homo Sapiens

        <400> 407

```
cttcaggaac tgttaaaaga aaaacaacaa gaagtaaagc agctacagaa ggactgcatc     60
aggtatcaag agaaaattag tgctctggag agaactgtta aagctctaga atttgttcaa    120
actgaatctc aaaaagattt ggaaataacc aaagaaaatc tggctcaagc agttgaacac    180
cgcaaaaagg cacaagcaga attagctagc ttcaaagtcc tgctagatga cactcaaagt    240
gaagcagcaa gggtcctagc agacaatctc aagttgaaaa aggaacttca gtcaaataaa    300
gaatcagtta aaagccagat gaaacaaaag gatgaagatc ttgagcgaag actggaacag    360
gcagaagaga agcacctgaa agagaagaag aatatgcaag agaaactgga tgctttgcgc    420
agagaaaaag tccacttgga gagagacaatt ggagagattc aggttacttt gaacaagaaa    480
gacaaggaag ttcagcaact tcaggaaaac ttggacagta ctgtgaccca gcttgcagcc    540
tttactaaga gcatgtcttc ccttcaggat gatcgtgaca gggtgataga tgaagctaag    600
aaatgggaga ggaagtttag tgatgcgatt caaagcaaag aagaagaaat tagactcaaa    660
gaagataatt gcagtgtcta aaggacactt agacagatgt ccttcntatg gaagaattaa    720
agantaccat ttcaggcttt gaccatgaca gcagatttgg agtccaggnc caaccaga      778
```

        <210> 408
        <211> 752
        <212> DNA
        <213> Homo Sapiens

        <400> 408

```
canattatta ggttnatnga anccatcctn tnggntnggn tgaaanacnt tcctnagtnt     60
nttttacngg accncaaaan atcagggncc tgcaaaatct cancaaatnt taggctcanc    120
```

```
aaaccaaaang ngattntnaa attaancaaa ancgttcagg ctcagggcag taaaaaaaag      180
caaactcgcc agnccntgca gctccaacct gncctcgtat cncctntgtt tttgcaggcn      240
ntttccgnga anagttggan anaaaacctg taaanggnaa aactgttcca ntggaatnga      300
ngttctgatg ttanaggnga nanaattcca agttttgagg ggagnggncc aaagagtacc      360
aactaagtnt ntananggcc cgtaaaacnc anantganca ggacntgaat cnttaaaaag      420
taaatggctg ntaaaagngg cnctcgggtc cgtgaatgac agagtgancn caggactcgn      480
ttccatccaa cgccantccg ggtccttcga caactgtngc ttgtaanatc tattaacagg      540
gcctgntcct gantgccaca ggagccaatg ntaggagtcc gggaagagtc ccatttcact      600
ggggctttaa ccgtctgaat ctggtccttg gccncagaga gagcnttttt nagnaggccc      660
ncnttttggg ccccgttntt ttttccagca ngcttccctt taattcattc ncttcccggg      720
ctggggggttg caaaacntgc tggntgacct tt                                   752
```

        `<210> 409`
        `<211> 736`
        `<212> DNA`
        `<213> Homo Sapiens`

        `<400> 409`

```
ggcgtgtcaa aactaacgta cctgtcaagc tctttgcccg ctccacagct gtcaccacca       60
gctcagccaa gatcaagtta aagagcagtg agctgcaggc catcaagacg gagctgacac      120
agatcaagtc caatatcgat gccctgctga gccgcttgga gcagatcgct gcggagcaaa      180
aggccaatcc agatggcaag aagaaggggtg atggaggtgg cgccagcggc ggcggcggcg      240
gtggtggtgg cagcggtggc ggtggcagtg gtggtggcgg tggcggtggc aacagccggc      300
caccagcccc ccaagagaac acaacttctg aggcaggcct gccccagggg gaagcacgga      360
cccgagacga cggcgatgag gaagggctcc tgacacacag cgaggaagag ctggaacaca      420
gccaggacac agacgcggat gatggggcct tgcagtaagc agcctgacag gagcaatggc      480
caccagcagg tgaagggcat cgctgcccag gcctcaagcc gggcacccaa ccctggatgc      540
cacccccccag cgggtaccag aggaaagctg cagcaggccg cctcctcccc caacgcatnc      600
cagccagtgc catgtcctct gcaggtggag ttactggcct actccttccc atgaacccttt      660
ccttgtctgc acttgccagg ccagagggta gagcacangg gtttccccat acttaccttc      720
ccttcccagg acactt                                                      736
```

        `<210> 410`
        `<211> 766`
        `<212> DNA`
        `<213> Homo Sapiens`

        `<400> 410`

```
gggatccaat ctctttattg tcagggtccc ctccctgngg cccccgcca aacctataga        60
aaaaacccaa gcctgggagt gtcctgggga ggggaggtag tatggggaaa ccccctgngct      120
ctaccctctg gcctgggcag tgcanacagg gagggctcat ggggaaggag taggccagta      180
actccacctg cagaggacat ggcactggct gggatgcgtt gggggaggag cgcctgctg       240
ccagcttttcc tctggtaccc gctggggggt ggcatccagg gttgggtgcc cggcttgagg      300
cctggggcag cgatgccctt cacctgctgg nggccattgc tcctgtcagg ctgcttactg      360
caaggcccca tcatccgcgt ctgtgtcctg gctgtgttcc agctcttcct cgctgtgtgt      420
caggagccct tcctcatcgc cgtcgtctcg ggtccgtgct tcccctggg gcaggcctgc       480
ctcanaagtt gngttctctt gggggctgg tggcccggct gttgccaccg gcaccggcac      540
caccactgnc accgncaccg ctgcaccacc accgncggcg cccgncgntt ggcgccaact      600
tcatnaccct tcttcttgca tctggaatgg ncttttgctt ncgcancgaa ctgntccaaa      660
cgggttaanc agggcatcna tatttggact tgaactgggn caancttccg ncttgaangg      720
ccttgcaagc ttnaatggtc tttaacttga actttggctt gaacct                     766
```

        `<210> 411`
        `<211> 812`
        `<212> DNA`

<213> Homo Sapiens

<400> 411

```
ggcgtgtcaa aactaacgta cctgtcaagc tctttgcccg ctccacagct gtcaccacca      60
gctcagccaa gatcaagtta aagagcagtg agctgcaggc catcaagacg gagctgacac     120
agatcaagtc caatatcgat gccctgctga ccgcttgga gcagatcgct gcggagcaaa     180
aggccaatcc agatggcaag aagaagggtg atggaggtgg cgccagcggc ggcggcggcg     240
gtggtggtgg cagcggtggc ggtggcagtg gtggtggcgg tggcggtggc aacagccggc     300
caccagcccc ccaagagaac acaacttctg aggcaggcct gccccagggg gaagcacgga     360
cccgagacga cggcgatgag gaagggctcc tgacacacag cgaggaagag ctggaacaca     420
gccaggacac agacgcggat gatggggcct tgcagtaagc agcctgacag gagcaatggc     480
caccagcagg tgaagggcat cgctgcccca ggcctcaagc cgggcaccca accctggatg     540
ccaccccccca gcgggtacca gaggaaagct ggcagcaggc gcctcctccc ccaacgcatc     600
ccagccagtg ccatgtcctc tgcaggtgga gttactggcc tactccttcc ccatgagccc     660
tccctgtctg cactgcccag gccagagggt agagcacagg ggtttcccca tactacctcc     720
cctccccagg acactcccag gcttgggttt tttctatagg tttggcgggg ggccncaggg     780
aggggaccct gacaataaag agattggatc cc                                   812
```

<210> 412
<211> 857
<212> DNA
<213> Homo Sapiens

<400> 412

```
aaccatctta gcccccaaaa tgatgatgct ctggagacac gagctaagaa gtctgcatgc      60
tctgacatgc ttctcgaagg tggtcctact acagcttctg taagagaggc caaagaggat     120
gaagaagatg aggagaagat tcagaatgaa gattatcatc acgagctttc agatggagat     180
ctggatctgg atcttgttta tgaggatgaa gtaaatcagc tcgatggcag cagttcctct     240
gctagttcca cagcaacaag taatacagaa gaaaatgata ttgatgaaga aactatgtct     300
ggagaaaatg atgtggaata taacaacatg gaattagaag agggagaact catggaagat     360
gcagctgctg caggacccgc aggtagtagc catggttatg tgggttccag tagtagaata     420
tcaagaagaa cacatttatg ctccgctgct accagtagtt tactagacat tgatccatta     480
attttaatac atttgttgga ccttaaggac cggagcagta tagaaaattt gtggggctta     540
cagcctcgcc cacctgcttc acttctgcag cccacagcat catattctcg aaaagataaa     600
gaccaaagga agcaacaggc aatgtggcga agtgccctct gatttaaaga tgctaaaaag     660
actcaaaact caaatggccc gaagttcgat gtatgaaaac tgatgtaaag gaatacactt     720
tcagaaataa aaagcacagt gctgcttctg gagacatgcn gacaagnctt ttttgctga     780
nccagcagnt ntggctgatg tggactgaaa cttttggcag aatgcaggat ttggatggac     840
tcctggcnaa agtctta                                                    857
```

<210> 413
<211> 790
<212> DNA
<213> Homo Sapiens

<400> 413

```
ctcaagtnga ttttattanc aaaaagngca aactattttg ancaaaagta aactatgagt      60
cacagcnttc agcaagacat canacncgga anagnganca atattcacta agtaaaatnc     120
agcanatgan atgtctntca catgtatatt naattattca tgctttttca atagtctntt     180
agtcaacttt cagngtaatt tccacaaata tatagcagnt caaacncaaa tgcaggancn     240
caanggcaaa gttnggcaac tgtttngggc taattatgag tntgaaagaa anccttatat     300
cacagtttca cgttcatgta anccactgng caacatgaat gaatntttaa angngttgac     360
nctgaaatca angtncaact aangaaanta aagaanaaaa gggggcttta aaatattngt     420
ngcnctacag tcgtatagta agaggcagaa aaaaatgaan gaattttaaa taatcttaca     480
cgtgtntaca gggccaggaa cgtaatgaat ccatgttaac ttaatttcat ttaaaattnc     540
```

●

●

```
atttgtagaa gtcncncaac agaaagatcc atgcggttga acagtgtgcc tgtncttgac      600
aagtgagaga agatccttct ccaaaaggga gattcagtct agggntactt cagttnttcc      660
catagnggct acagggcana atctttttca aaagcaattt tctggtccct aaatctacag      720
gcnctantgg gacctgtaat taaaancccc caattttaag gangattttt aaaccccact      780
taagctttta                                                            790
```

        <210> 414
        <211> 1063
        <212> DNA
        <213> Homo Sapiens

        <400> 414

```
gnnnnntncn gccanncnan agnntgntca cctccnagat nngggatggn ntggtgaccc       60
nggcnttgac tctgnnnngc gacntnttgc tagtcttcag gnctcctact acaggctttg      120
taatganctn nacttgnctt gagacagcct angggagacc acggatgntc tattannngn      180
gcangctgnn ctatngcaan ntgggnctna nnctgnanaa tcannngcng ccatgnnaga      240
tnaatagaag ctcatnntgt cataaatggn ccatgactta taaatnaagt ggactggata      300
tcttatgaca gnagcnatnt angcttngtg ngnagttaan gcttccacct nnggangata      360
agaggncnac cttgtntnan ctnntgcngc tgnaagancc agaganannt gccntgggag      420
attcatggcc natgatagta tatnatctct tacaccanat atgccttgct gnatcncaaa      480
tctggacata cacgntttcc ccatctcaga cttcnttgca gcagctgctt nccnacnnta      540
cccatgaacg acanntgctt acgntanagc ntgaacnatn tgatgagctt cntcagccca      600
gacctcatca tttcgagaag cacatgtccc tgcgtttcaa cctatggatg aggaaaagnc      660
ctngngctta aagctcttga aaatccttta cacnngaanc nttctgcata gcttnaatca      720
ctctgagntg cccacatngn gtnctggaag gcttccggnt annatggttc cgggacctnc      780
aacccttccg tttgaatnct nacntgaccg ganagggtnt gcctgggttc cttgngccnc      840
gaacttaacc ntcacaattn ggntgngant tcntggtaac ggcntaatct nccccaggaa      900
ttggccgctg cttcnacggg aattaanggg aatctttccc atcccnctta nnaccagtta      960
ggngcccntt tttcaatttt cngactcccg gagctttnaa aaaccggggg ccttaggttn     1020
cttggatggc nttgggggtn gccccctttta gggaattaaa ggg                     1063
```

        <210> 415
        <211> 824
        <212> DNA
        <213> Homo Sapiens

        <400> 415

```
gtttgattnt aacaaaannt attatgcaca aatnacnnag gntanagact ctnncatctn       60
anatnaaaat ancagttata attacacaca taatataggt accttataca atgattccaa      120
taaatatcac aggaaataca ntgcattttc aagntgnana gacnaatact tnctcattca      180
cagngnttga catanganag cctatttaca tancnatctg tataaagtca tgctctnant      240
ancaggntat ncagngctgn gccancacaa tgntttnaga angtgaagaa ccggncaaac      300
cactnntggn gctggggatc tgganaagcc acctgnanaa gcttcactct gagcangact      360
cannaatgnc ttgngccctt taggtggcac tggctgtgga agtggttaag ctgctgctga      420
actcaattcg tggactgnag aattaggaat gggaccagg cggttnggat gaccattgcc       480
cactcnanca natnccaaag nnctnagaan gggaacnctc caancctgct tnatggngat      540
taancatnct tcttcttttg cttaacccat ggattananc acancagcna gtacngactt      600
ggntttaccc ncttcngttg gaaataagga ttcttgatng actaaannnc agctggtnaa      660
aacntaactn tccctcaatt tagcnttatt ntatgaancc ggggcctant ntcntgttca      720
aaaangngnt tttaagttcc ggtaatccta ccggnaatta nttgggggct ntgaattcan      780
cnccttana anatttnggn ttaccatttn aatccaaagg ccac                       824
```

        <210> 416
        <211> 838
        <212> DNA

<213> Homo Sapiens

<400> 416

```
ctcaaaagtg gaaaatatgt acaatctgta atgagctttt tcctgaaaat gtctatagtg      60
tgcacttcga aaaagaacat aaagctgaga aagtcccagc agtagccaac tacattatga     120
aaatacacaa ttttactagc aaatgcctct actgtaatcg ctatttaccc acagatactc     180
tgctcaacca tatgttaatt catggtctgt cttgtccata ttgccgttca actttcaatg     240
atgtggaaaa gatggccgca cacatgcgga tggttcacat tgatgaagag atgggaccta     300
aaacagattc tactttgagt tttgatttga cattgcagca gggtagtcac actaacatcc     360
atctcctggt aactacatac aatctgaggg atgccccagc tgaatctgtt gcttaccatg     420
cccaaaataa tcctccagtt cctccaaagc cacagccaaa ggttcaggaa aaggcagata     480
tccctgtaaa aagttcacct caagctgcag tgccctataa aaaagatgtt gggaaaaccc     540
tttgtcctct ttgcttttca atcctaaaag gacccatatc tgatgcactt gcacatcact     600
tacgagagag gcaccaagtt attcagacgg tcatccagtt tgagaaaaag ctnacctaca     660
aatgnatcca ttggcttggt gngnatacca gcaacatgga ncggctnaac tatcacttct     720
gnatctagnt cactggnagg gccgtttggn aagganccca aatgggccag gataagacaa     780
aaggcnccct ttngggttaa tcagncttcc aagtctngca cctgtgnaac gcacttac      838
```

<210> 417
<211> 880
<212> DNA
<213> Homo Sapiens
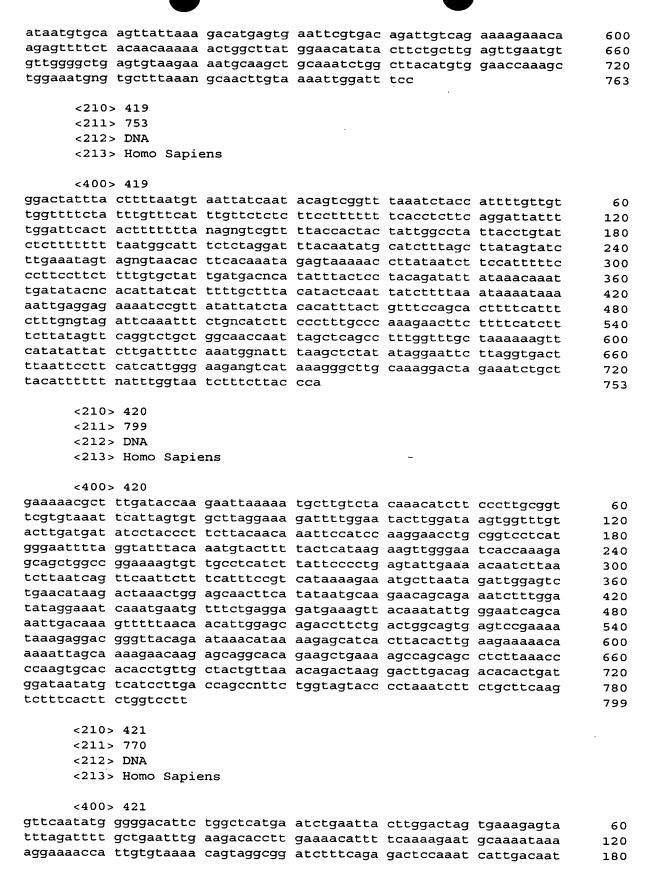
<400> 417
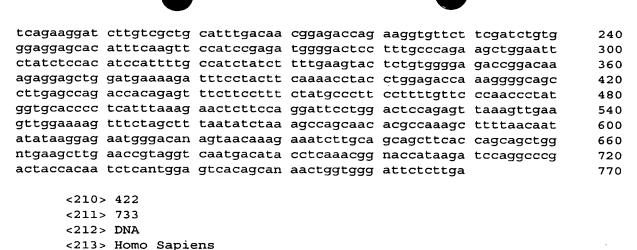
```
aagcacaata cagcaattta tttagatgct taaaatgaat acaaagggaa aataaagatc      60
acaaaattat acatactaca acagtgtgtc atatattaga tggtataaat gaatccacca     120
tgatggtgtt gaactaaaga taaaactaaa tatccaaaat gcagcactca ttggtttgct     180
gcttcaacac aacacacttt tatacagatc taaaaggtgt caaaattagt agctgcaaag     240
tcaattcttg catgtgattt tagcttaaaa gatttcagaa aacagatctg aaataccagt     300
ttttgttttt gacagctgta atgtcaagga tattcagaac aagaaaaatc ctataataca     360
agagagtcca gatatatatc ttacgtggct ggcctctgtt gcaagattgt acaaggttat     420
gtgcaaaaac taagtctgtc caaaaagtcc atactagcgc agttttgagc ttttgctagg     480
taaactagat agagcgttta ttacacagca agggcaacac taaaaaaga aatctatgat      540
gggcacacag taacaggatc atgagcatca cttgaatagg tctaaaagac tgtcaaatat     600
acatttcaac tattcagaat gaatacatga aaaaaaatcg cttttcccaa aggtctacta     660
tacncattan actgggagct tgnatgttgg gccctacact accatgggga attangttta     720
acacttntta aaaacatttg gccaatcatt tcncagangg gaaagaaatg ttgaaaaggc     780
cgataaaata aacccttggg ttttcctcgg gggattcatg gagtcacccg ccttaatggg     840
ttttcacatt taagttaccc gggcttggca aaaaaaggtt                          880
```

<210> 418
<211> 763
<212> DNA
<213> Homo Sapiens

<400> 418

```
agaagatggc ggaagcggaa tttaaggacc atagtacagc tatggatact gaaccaaacc      60
cgggaacatc ttctgtgtca acaacaacca gcagtaccac caccaccacc atcaccactt     120
cctcctctcg aatgcagcag ccacagatct ctgtctacag tggttcagac cgacatgctg     180
tacaggtaat tcaacaggca ttgcatcggc cccccagctc agctgctcag taccttcagc     240
aaatgtatgc agcccaacaa cagcacttga tgctgcatac tgcagctctt cagcagcagc     300
atttaagcag ctcccagctt cagagccttg ctgctgttca ggcaagtttg tccagtggaa     360
gaccatctac atctcccaca ggaagtgtca cacagcagtc aagtatgtcc caaacgtctg     420
tagaaattct tatggactgg aatcttcctc aaggcttact ttgttcctgg gatgcagtgg     480
tgcatagaag atagggcatt gactcactca gacctggctt gcccagcatg cattgcaaca     540
```

```
ataatgtgca agttattaaa gacatgagtg aattcgtgac agattgtcag aaaagaaaca    600
agagttttct acaacaaaaa actggcttat ggaacatata cttctgcttg agttgaatgt    660
gttggggctg agtgtaagaa aatgcaagct gcaaatctgg cttacatgtg gaaccaaagc    720
tggaaatgng tgctttaaan gcaacttgta aaattggatt tcc                      763
```

```
        <210> 419
        <211> 753
        <212> DNA
        <213> Homo Sapiens


        <400> 419
ggactattta cttttaatgt aattatcaat acagtcggtt taaatctacc attttgttgt    60
tggttttcta tttgtttcat ttgttctctc ttcctttttt tcacctcttc aggattattt   120
tggattcact actttttta nagngtcgtt ttaccactac tattggccta ttacctgtat     180
ctctttttt taatggcatt tctctaggat ttacaatatg catctttagc ttatagtatc     240
ttgaaatagt agngtaacac ttcacaaata gagtaaaaac cttataatct tccattttc     300
ccttccttct tttgtgctat tgatgacnca tatttactcc tacagatatt ataaacaaat    360
tgatatacnc acattatcat ttttgcttta catactcaat tatctttaa ataaaataaa     420
aattgaggag aaaatccgtt atattatcta cacatttact gtttccagca cttttcattt    480
ctttgngtag attcaaattt ctgncatctt ccctttgccc aaagaacttc ttttcatctt    540
tcttatagtt caggtctgct ggcaaccaat tagctcagcc tttggtttgc taaaaaagtt    600
catatattat cttgattttc aaatggnatt taagctctat ataggaattc ttaggtgact    660
ttaattcctt catcattggg aagangtcat aaagggcttg caaaggacta gaaatctgct    720
tacattttt natttggtaa tctttcttac cca                                  753
```

```
        <210> 420
        <211> 799
        <212> DNA
        <213> Homo Sapiens


        <400> 420
gaaaaacgct ttgataccaa gaattaaaaa tgcttgtcta caaacatctt cccttgcggt     60
tcgtgtaaat tcattagtgt gcttaggaaa gattttggaa tacttggata agtggtttgt    120
acttgatgat atcctaccct tcttacaaca aattccatcc aaggaacctg cggtcctcat    180
gggaatttta ggtatttaca aatgtacttt tactcataag aagttgggaa tcaccaaaga    240
gcagctggcc ggaaaagtgt tgcctcatct tattcccctg agtattgaaa acaatcttaa    300
tcttaatcag ttcaattctt tcatttccgt cataaaagaa atgcttaata gattggagtc    360
tgaacataag actaaactgg agcaacttca tataatgcaa gaacagcaga aatctttgga    420
tataggaaat caaatgaatg tttctgagga gatgaaagtt acaaatattg ggaatcagca    480
aattgacaaa gtttttaaca acattggagc agaccttctg actggcagtg agtccgaaaa    540
taaagaggac gggttacaga ataaacataa aagagcatca cttacacttg aagaaaaaca    600
aaaattagca aaagaacaag agcaggcaca gaagctgaaa agccagcagc ctcttaaacc    660
ccaagtgcac acacctgttg ctactgttaa acagactaag gacttgacag acacactgat    720
ggataatatg tcatccttga ccagccnttc tggtagtacc cctaaatctt ctgcttcaag    780
tctttcactt ctggtcctt                                                 799
```

```
        <210> 421
        <211> 770
        <212> DNA
        <213> Homo Sapiens


        <400> 421
gttcaatatg ggggacattc tggctcatga atctgaatta cttggactag tgaaagagta     60
tttagatttt gctgaatttg aagacacctt gaaaacattt tcaaaagaat gcaaaataaa    120
aggaaaacca ttgtgtaaaa cagtaggcgg atctttcaga gactccaaat cattgacaat    180
```

```
tcagaaggat cttgtcgctg catttgacaa cggagaccag aaggtgttct tcgatctgtg    240
ggaggagcac atttcaagtt ccatccgaga tggggactcc tttgcccaga agctggaatt    300
ctatctccac atccattttg ccatctatct tttgaagtac tctgtgggga gaccggacaa    360
agaggagctg gatgaaaaga tttcctactt caaaaacctac ctggagacca aaggggcagc    420
cttgagccag accacagagt ttcttccttt ctatgccctt cctttttgttc caacccctat    480
ggtgcacccc tcatttaaag aaactcttcca ggattcctgg actccagagt taaagttgaa    540
gttggaaaag tttctagctt taatatctaa agccagcaac acgccaaagc ttttaacaat    600
atataaggag aatgggacan agtaacaaag aaatcttgca gcagcttcac cagcagctgg    660
ntgaagcttg aaccgtaggt caatgacata cctcaaacgg naccataaga tccaggcccg    720
actaccacaa tctcantgga gtcacagcan aactggtggg attctcttga              770
```

```
<210> 422
<211> 733
<212> DNA
<213> Homo Sapiens

<400> 422
caaaangaan gctttatttt gaatttttaaa aatacataca tcttacactg taatcaaaac    60
aaagcttaag aaagtcaatt cccgcttcct ttagccctga cttacactgg gtacccgttt    120
ctgtggccgc cggggggtgac ggnccttttgc aggggctcat ccccgctcca ctgcacatta    180
gccagcccct tccgccttgt cttccccgng ttggtcatga tccccaggta ctccgnggtc    240
anaagcttct ctcctgagag ttctccgagc tggggctgga tcagttcgtc tttgtccana    300
tcggcttcca tgatgtcatg gncctcttca tcatcttcat cttcatcatc atcagattca    360
agaacaccat ctggtagctc ttcggaattt agctgcttga tgatgaattc tatctggcgg    420
atcatttcag cattgccttc tttgatgaag cagcgtagga tgtcttccat tcccattgct    480
cttgcttcct cacgaatgga tggancagaa aggatgctgt acagagctcc attcacatac    540
ggctgtatct catggttttc atggccaaga agatccgaaa ggactttgag caccgaggcc    600
tgccaccttg gcacacatgg tcttccctgn gctgcggagg gcagaggttc atggagcaaa    660
agccaccgag tactccaacg gggnagccag acagggcagn cagggtcctt tcanaacatc    720
aacccagccc gaa                                                      733
```

```
<210> 423
<211> 862
<212> DNA
<213> Homo Sapiens

<400> 423
catctgtcca gggtgcatcg agccgggagg gctcaccagc caggagcagc acgccactcc    60
actccccctc gcccatccgt gtgcacaccg tggtcgacag gcctcagcag cccatgaccc    120
atcgagaaac tgcacctgtt tcccagcctg aaaacaaacc agaaagtaag ccaggcccag    180
ttggaccaga actccctcct ggacacatcc caattcaagt gatccgcaaa gaggtggatt    240
ctaaacctgt ttcccagaag ccccccacctc cctctgagaa ggtagaggtg aaagttcccc    300
ctgctccagt tccttgtcct cctcccagcc ctggcccttc tgctgtcccc tcttccccca    360
agagtgtggc tacagaagag agggcagccc ccagcactgc ccctgcagaa gctacacctc    420
caaaaccagg agaagccgag gctcccccaa aacatccagg agtgctgaaa gtggaagcca    480
tcctggagaa ggtgcagggg ctggagcagg ctgtagacaa ctttgaaggc aagaagactg    540
acaaaaagta cctgatgatc gaagagtatt tgaccaaaga gctgctggcc ctggattcag    600
tggaccccga gggacgaagc cgatgtgcgt caggccagga gagacggtgt caggaaggtt    660
cagaccatct tggaaaaact tgaacagaaa gccattgatg tccangtcaa gtccaggtct    720
atgaacttca agccaagcaa ccnttgaagc agatcaagcc cctggaggca atcatggaaa    780
agggtgccgt ggcagcaaga caagggcaag aaaaatgctt ggaaatggcn gaagatcccc    840
acacnggaaa ccagcaggcc cg                                            862
```

```
<210> 424
<211> 859
```

```
<212> DNA
<213> Homo Sapiens

<400> 424
gagttatatt attactttat tttctttttt taaaatgtag cattaaagtc atccaacata    60
cagatattcc tatggctcct ggcacatttt actctctcta aagtcaggta ttttaattat   120
gagatgaaga aaatcatctc attaaaatgg caacatttct gataaatgtt tcatatttat   180
gtgatgggta attgactccc catctacccc tccagtccag agctacaaaa gacagtgcac   240
aaccacagct aacaggtggt gggggtgccc aagtagacag ggctgcagaa caagcaacgg   300
ggttaaactt ctcaaacaac aagcaacttc tttatttgta cagagtaaga atatagaaga   360
aaagcatcat tttccttttt agccctttta ttagtgtttt gcctccaccc aagttactgc   420
ataccaagca gctaataaaa accaactgac ttaaagtctc tgaaatgcat gcaacttaaa   480
attccctaaa gcacacatcg gttccgagtc tgattttac agggcagagg ctacggtgct   540
gctgggttac caggggtgtc tggcatgctg ctggggtttg aagtcgctgc tgctgnggct   600
tctggctgct gggtttctgt gtggggatct ttctgcattt ccagcatttt tcttggcctt   660
ggctgctgcc acggnaccca tcttcatgaa tgcctgcaaa tggctggacc tgnttcaaag   720
gttgctgggg ctggagttca ttagacctgg accttggccc tgggacatca aagggctttc   780
tggtcaaggt ttttccaaga agggcctgga accttcctgg acancggntt tttctgggcc   840
tggacgcnca attggggtt                                                859


<210> 425
<211> 837
<212> DNA
<213> Homo Sapiens

<400> 425
cagaatggag gtggagtccc taaacaaaat gcttgaggag ctaagacttg aacggaagaa    60
actaattgag gattatgaag gcaagttgaa taaagctcag tccttttatg aacgtgagct   120
tgatactttg aaaaggtcac agcttttac agcagaaagc ctacaggcca gcaaagaaaa   180
ggaagctgat cttagaaaag aatttcaggg acaagaagca attttacgaa aaactatagg   240
aaaattaaag acagagttac agatggtaca ggatgaagct ggaagtcttc ttgacaaatg   300
ccaaaagctt cagacggcac ttgccatagc agagaacaat gttcaggttc ttcaaaaaca   360
gcttgatgat gccaaggagg gagaaatggc cctattaagc aagcacaaag aagtggaaag   420
tgagctagca gctgccagag aacgtttaca acagcaagct tcagatcttg tcctcaaagc   480
tagtcatatt ggaatgcttc aagcaactca aatgacccag gaagttacaa ttaaagattt   540
agaatcagaa aaatcgagag tcaatgagag attatctcaa cttgaagagg aaagagcttt   600
tttgcgaagc caaaacccaa agtctggatg aagagcagaa gcnacagatt ctaagaactg   660
ggagaagaaa gtaaatgaac caagagactc agcaggaata ttatgaaagg gaacttaaaa   720
anctgcaagt agaatggaag aagaggggct taattaacga nggccattct aagacttttg   780
gaagaattag cttggaacnc cttttggcaa ttgaacttgt cncaggtaat gccattt      837


<210> 426
<211> 724
<212> DNA
<213> Homo Sapiens

<400> 426
gattctaaca aaatttatta tgcagtaatt acaaaggtta aagactcttc catctcaaat    60
aaaaataaca gttataatta cacacataat atagtacctt atagaatgat tccaataaat   120
atcacaggaa atacagtgca ttttcaagtt ggagagacaa atactttctc attcacagtg   180
tttgacatag gaaagcctat ttacataaca atctgtataa agtcatgctc ttagtaacag   240
tctatacaga gctgtgccaa cacaattctt tcagaatgtg aagtaccggg caaaccactc   300
ctggcgctgg ggatctggag aagccactgg agaagcttca ctctgagcag gactcaaaaa   360
tgtcttgggc cctttaggtg gcactggctg tggaagtggt ttgctgctgt tgaactcaat   420
atcgtggact ggagaattag gaatgggatc caggcggtta ggatgtccat tgcccactcc   480
```
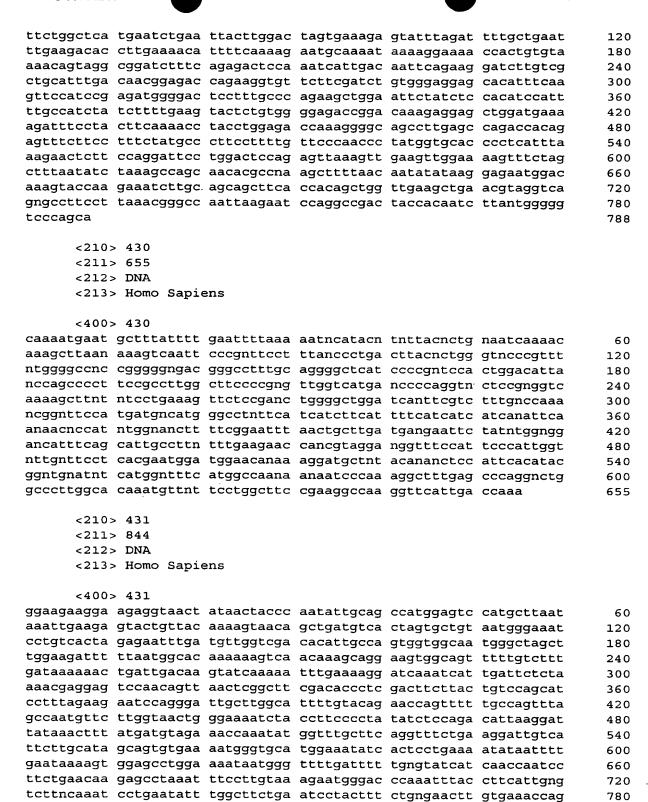
```
accagattcc agagcactta nattgggaac actcacaaac ctgtttgttg gtgatttatc    540
attcttcttc ttttgcttag ccaatggatt aataacacca acagtaggac ttgagttaaa    600
cactttggtg aaagttagtt tctcgaattg actaattcca gctgataaaa cttattatcc    660
tcaattagtt tctttatgan ctgggcctct ttctgtaagc atggctttta attctggaat    720
catc                                                                 724
```

        <210> 427
        <211> 981
        <212> DNA
        <213> Homo Sapiens

        <400> 427

```
aaaaacaaaa taaaacaaaa aanaaaaant atatatatnt atatatatat atatatatac     60
acacacacac acacaactca aagagttana atcattacnt ncaaatgaaa gtcgtaatga    120
tagatgatga tagntncaat gaanctgnga ncatanatta angaaacana naacantncn    180
aaaggtccac aaatctggtc ctatgaaaag agtaaaatta ccaagactng gtgaaaganc    240
ccannaaaan ncanagagag anagagagag agagaganac anagagagag aganaaaggg    300
aaggcacacn taancnatat cagcaataaa angggnnact ttantacana ttctgcaanc    360
attannnnna taatganagg atattatgaa cagttgtatg gcnatatgtt tgaaaactta    420
gatgccgata tgtttgaaaa cttaaatgaa acggaaaaat tccttgaaga accacaantt    480
aaatttgaca caggtagaaa atntgaatgc agttngncct tcagtatctg tggggaaatc    540
ggttncagaa ccactcccccc antaccnaaa tttataattg ctcaagttcc tgatataaaa    600
tggcaaagta tttgcatata ncctatccct accctttttac atactttaaa taacctntga    660
gttncttnat tataacctaac ataatgtaca tttctgtggc aaatcgntnn taatattgga    720
ttttnaaaat tatnttantt ttggaatagg nngtantatt tcctggggct ttttttttcc    780
ccaaatattt tntaattccc caattnggtt ggaatcttgg gaaccccatg gngggggancc    840
catangattt tgggaanggn ccaacttggg gccttngtaa ctttttaaag aaatngggaa    900
ttctttgntn aanaattctt ncncccaaag aaaacccctt tggccccana agttntttna    960
aatggggaaa tttncccaaa c                                              981
```

        <210> 428
        <211> 655
        <212> DNA
        <213> Homo Sapiens

        <400> 428

```
ataggacaac atgaacattg ttgagtcact gaagctaaac caaacttgct tttctgtaat     60
aaacccaatt tggtcatgat ttaatatttt ttggatcgct ctggatttgg tttgctaata    120
ttttattcat ccaagaaata ttcattagag aaaattggcat gggattttt tttcattgta    180
atgtccttgt caggtatcaa ggcttttttca gcctgataaa gcatattaag aaatgcttcc    240
tcttttccta ttctctggaa aagattgtgt aatattgctg ttactacttc ctgtaatgtt    300
tggtgaaatt cacaattgaa gacatctggg cctagcgtgt tctttgtagg aagaatatta    360
agaaagaatt ccatttcttt aaaagttacg agcacagttg gccttccaga tctatggatc    420
ccacatgagt tccagattca accaattgtg tattaaaaat atttgggaaa aaaagccaca    480
agaaataata caactataca aaataatata atttttaaaa tacaatataa caacgattta    540
cacagaatgt nccattatgt taggnattat aagtaactca gaggntattt aaagnatgtg    600
agaggnnatg gataggctat atgccaaata ctttgccant cttatantca gggaa         655
```

        <210> 429
        <211> 788
        <212> DNA
        <213> Homo Sapiens

        <400> 429

```
gagcagcaga gatttttgct gtgagaatta attaccagta acagttcaat atgggggaca     60
```

```
ttctggctca tgaatctgaa ttacttggac tagtgaaaga gtatttagat tttgctgaat    120
ttgaagacac cttgaaaaca ttttcaaaag aatgcaaaat aaaaggaaaa ccactgtgta    180
aaacagtagg cggatctttc agagactcca aatcattgac aattcagaag gatcttgtcg    240
ctgcatttga caacggagac cagaaggtgt tcttcgatct gtgggaggag cacatttcaa    300
gttccatccg agatggggac tcctttgccc agaagctgga attctatctc cacatccatt    360
ttgccatcta tcttttgaag tactctgtgg ggagaccgga caaagaggag ctggatgaaa    420
agatttccta cttcaaaacc tacctggaga ccaaaggggc agccttgagc cagaccacag    480
agtttcttcc tttctatgcc cttccttttg ttcccaaccc tatggtgcac ccctcattta    540
aagaactctt ccaggattcc tggactccag agttaaagtt gaagttggaa aagtttctag    600
ctttaatatc taaagccagc aacacgccna agcttttaac aatatataag gagaatggac    660
aaagtaccaa gaaatcttgc agcagcttca ccacagctgg ttgaagctga acgtaggtca    720
gngccttcct taaacgggcc aattaagaat ccaggccgac taccacaatc ttantggggg    780
tcccagca                                                             788
```

```
        <210> 430
        <211> 655
        <212> DNA
        <213> Homo Sapiens


        <400> 430
caaaatgaat gctttatttt gaattttaaa aatncatacn tnttacnctg naatcaaaac     60
aaagcttaan aaagtcaatt cccgnttcct ttanccctga cttacnctgg gtncccgttt    120
ntggggccnc cgggggngac gggcctttgc aggggctcat ccccgntcca ctggacatta    180
nccagcccct tccgccttgg cttccccgng ttggtcatga nccccaggtn ctccgnggtc    240
aaaagcttnt ntcctgaaag ttctccganc tggggctgga tcanttcgtc tttgnccaaa    300
ncggnttcca tgatgncatg ggcctnttca tcatcttcat tttcatcatc atcanattca    360
anaacnccat ntggnanctt ttcggaattt aactgcttga tgangaattc tatntggngg    420
ancatttcag cattgccttn tttgaagaac cancgtagga nggtttccat tcccattggt    480
nttgnttcct cacgaatgga tggaacanaa aggatgctnt acananctcc attcacatac    540
ggntgnatnt catggntttc atggccaana anaatcccaa aggctttgag cccaggnctg    600
gcccttggca caaatgttnt tcctggcttc cgaaggccaa ggttcattga ccaaa         655
```

```
        <210> 431
        <211> 844
        <212> DNA
        <213> Homo Sapiens


        <400> 431
ggaagaagga agaggtaact ataactaccc aatattgcag ccatggagtc catgcttaat     60
aaattgaaga gtactgttac aaaagtaaca gctgatgtca ctagtgctgt aatgggaaat    120
cctgtcacta gagaatttga tgttggtcga cacattgcca gtggtggcaa tgggctagct    180
tggaagattt ttaatggcac aaaaaagtca acaaagcagg aagtggcagt ttttgtcttt    240
gataaaaaac tgattgacaa gtatcaaaaa tttgaaaagg atcaaatcat tgattctcta    300
aaacgaggag tccaacagtt aactcggctt cgacaccctc gacttcttac tgtccagcat    360
cctttagaag aatccaggga ttgcttggca ttttgtacag aaccagtttt tgccagttta    420
gccaatgttc ttggtaactg ggaaaatcta ccttcccta tatctccaga cattaaggat    480
tataaacttt atgatgtaga aaccaaatat ggtttgcttc aggtttctga aggattgtca    540
ttcttgcata gcagtgtgaa aatgggtgca tggaaatatc actcctgaaa atataatttt    600
gaataaaagt ggagcctgga aaataatggg ttttgatttt tgngtatcat caaccaatcc    660
ttctgaacaa gagcctaaat ttccttgtaa agaatgggac ccaaatttac cttcattgng    720
tcttncaaat cctgaatatt tggcttctga atcctacttt ctgngaactt gtgaaaccag    780
ccagtggata tgggattcnt ttaggaactg gtatggaatg ccgggatttt aataaaaggg    840
gaaa                                                                 844
```

```
        <210> 432
```

```
      <211> 807
      <212> DNA
      <213> Homo Sapiens

      <400> 432
atcaaagcta aaatttattt ggtgcatact cctcttgata tcaggtatgt tcgcatatac      60
cttttctttt catgtgtaaa aacaaccatg tgaggtattt tacaggtcaa aagaaaacaa     120
aaactacttc cttattcagt gtaaaggagg cttataagca ttccaaaata aaaacaaaca     180
aaaaccagac aagtacatag tctatttcca tttcctttta tacatcctct ctatatatca     240
cacatttagc aataggagaa tagagaacta attcaaatgc aagggaatct tttttgtaga     300
ttctgttgac agatgctctt taacctaaac attttctact ctaaacataa cggacttaat     360
tgtcttcagt acgtgaaata attttaaggt gatctagtac tttgaaaatt tcattcactt     420
aagaacactt aagctgaaaa atagcactat ttttcagagg caatttctca acagaaaaag     480
gcaatggtaa cagttcaatt gatggaaatg gttgaaataa aatacctgaa gtagaaaaaa     540
ggtgtaggaa caattttgta aaaacatagc accattacct caacgaatga acaaatttta     600
catactggat ttttttcaaa tgacttattt tcatatttag tagttcaagg tctataagct     660
ggtatattaa gctttctttc tggttaagag ntcaacactt acatcatggt attttacnaa     720
attaaaaacc aatttcttaa ataaaccgng gctcctaaaa tggtaccaag gaaaaattct     780
tcaataccta atttaattcc ataagga                                        807

      <210> 433
      <211> 866
      <212> DNA
      <213> Homo Sapiens

      <400> 433
cttcagccca gatgcagaat gggggcccct ccacacccccc tgcatcaccc cctgcagatg      60
gctcacctcc attgcttccc cctggggaac ctcccctgtt agggaccttt ccccgggacc     120
acacctcttt ggcactagtt cagaatggtg atgtgtcggc ccctctgcc atactcagaa     180
caccagaaag cacaaaaccg ggtcctgttt gtcagccacc agtgagtcag agccgctccc     240
tgttttcttc tgtcccgtcc aagccaccaa tgtctctgga gcctcaaaat gggacgtatg     300
caggaccagc gccagcattc cagccatttt tcttcactgg agcatttcca tttaatatgc     360
aagagctggt actcaaggtg agaattcaga acccatctct tcgagaaaat gatttcattg     420
aaattgaact ggaccgacag gagctcacct accaagagtt gctcagagtg tgttgctgtg     480
agctgggtgt taatccagat cangtggaga ngatcagaaa gttacccaat actctgttaa     540
ggaaggacaa ggatgttgct cgactccaag atttccagga gctggaactg gttctgatga     600
taagtgaaaa taattttctg ttcanaaatg ctgcatccac actgactgaa aggccttgct     660
ataacaggag agcttcaaaa actgacttac taatgcacag ggacttttat cactggagta     720
ttatgacagt gngcatcacc ttntgggccc aaggaccaag ccattggtct aaaaggcctc     780
aaaatgcccc gggaggcct ctggtggcca tggcattagt atatactaac catcattctg     840
gccaggtaag gaagcccctg gacccc                                         866

      <210> 434
      <211> 764
      <212> DNA
      <213> Homo Sapiens

      <400> 434
caaaataacc tttatttttg atacaaaaat aaagatgcta actcctttag ctcagtttcc      60
cacaataacc tttaaaatag caacagattc agtctcaaaa attgcttttc atttgtagtg     120
gaaaatgaaa gtggagaaca tggaacagca atatttgngc tcttctcata ggatgcagtt     180
acacacacat atgactggaa tcacttcaga gtaaaaaaaa agtgggctgg gtgcagtggc     240
tcacacctgt aatcccagca ctttgggagg ccaaggacag gagcatcact taaggccaga     300
agtttgagac cagcctgggc cacatagtga gaccctgtct ctatgggcgg ggtgggggtg     360
gggggcattg taaaaaagca gttgttcttt tanaaggcat cagagagccc tntagtgacc     420
```
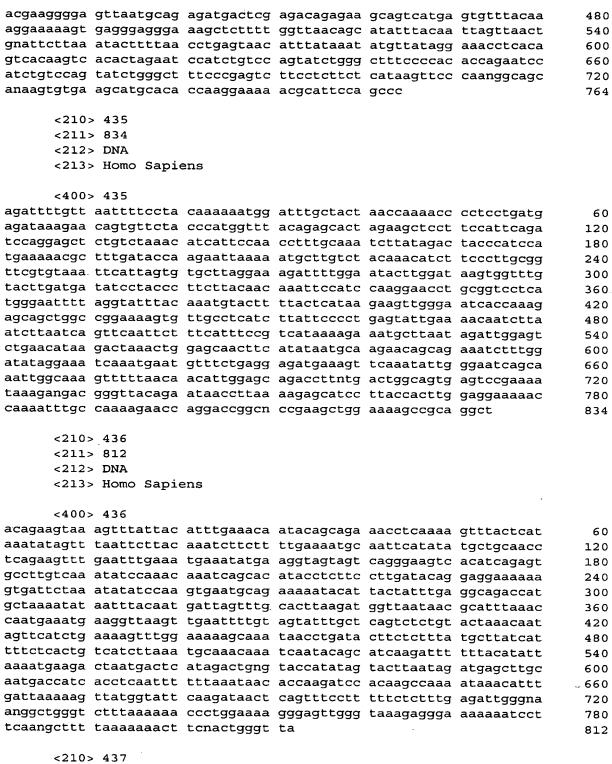
-235-

```
acgaagggga gttaatgcag agatgactcg agacagagaa gcagtcatga gtgtttacaa        480
aggaaaaagt gagggaggga aagctctttt ggttaacagc atatttacaa ttagttaact        540
gnattcttaa atacttttaa cctgagtaac atttataaat atgttatagg aaacctcaca        600
gtcacaagtc acactagaat ccatctgtcc agtatctggg ctttccccac accagaatcc        660
atctgtccag tatctgggct ttcccgagtc ttcctcttct cataagttcc caanggcagc        720
anaagtgtga agcatgcaca ccaaggaaaa acgcattcca gccc                          764
```

```
        <210> 435
        <211> 834
        <212> DNA
        <213> Homo Sapiens

        <400> 435
agattttgtt aattttccta caaaaaatgg atttgctact aaccaaaacc cctcctgatg         60
agataaagaa cagtgttcta cccatggttt acagagcact agaagctcct tccattcaga        120
tccaggagct ctgtctaaac atcattccaa cctttgcaaa tcttatagac tacccatcca        180
tgaaaaacgc tttgatacca agaattaaaa atgcttgtct acaaacatct tcccttgcgg        240
ttcgtgtaaa ttcattagtg tgcttaggaa agattttgga atacttggat aagtggtttg        300
tacttgatga tatcctaccc ttcttacaac aaattccatc caaggaacct gcggtcctca        360
tgggaatttt aggtatttac aaatgtactt ttactcataa gaagttggga atcaccaaag        420
agcagctggc cggaaaagtg ttgcctcatc ttattcccct gagtattgaa acaatctta        480
atcttaatca gttcaattct ttcatttccg tcataaaaga aatgcttaat agattggagt        540
ctgaacataa gactaaactg gagcaacttc atataatgca agaacagcag aaatctttgg        600
atataggaaa tcaaatgaat gtttctgagg agatgaaagt tcaaatattg ggaatcagca        660
aattggcaaa gtttttaaca acattggagc agaccttntg actggcagtg agtccgaaaa        720
taaagangac gggttacaga ataaccttaa aagagcatcc ttaccacttg gaggaaaaac        780
caaaatttgc caaaagaacc aggaccggcn ccgaagctgg aaaagccgca ggct             834
```

```
        <210> 436
        <211> 812
        <212> DNA
        <213> Homo Sapiens

        <400> 436
acagaagtaa agtttattac atttgaaaca atacagcaga aacctcaaaa gtttactcat         60
aaatatagtt taattcttac aaatcttctt ttgaaaatgc aattcatata tgctgcaacc        120
tcagaagttt gaatttgaaa tgaaatatga aggtagtagt caggaagtc acatcagagt        180
gccttgtcaa atatccaaac aaatcagcac atacctcttc cttgatacag gaggaaaaaa        240
gtgattctaa atatatccaa gtgaatgcag aaaaatacat tactatttga ggcagaccat        300
gctaaaatat aatttacaat gattagtttg cacttaagat ggttaataac gcatttaaac        360
caatgaaatg aaggttaagt tgaatttttgt agtatttgct cagtctctgt actaaacaat        420
agttcatctg aaaagtttgg aaaaagcaaa taacctgata cttctcttta tgcttatcat        480
tttctcactg tcatcttaaa tgcaaacaaa tcaatacagc atcaagattt tttacatatt        540
aaaatgaaga ctaatgactc atagactgng taccatatag tacttaatag atgagcttgc        600
aatgaccatc acctcaattt tttaaataac accaagatcc acagccaaa ataaacattt         660
gattaaaaag ttatggtatt caagataact cagtttcctt tttctctttg agattgggna        720
anggctgggt ctttaaaaaa ccctggaaaa gggagttggg taaagaggga aaaaaatcct        780
tcaangcttt taaaaaaact tcnactgggt ta                                      812
```

```
        <210> 437
        <211> 842
        <212> DNA
        <213> Homo Sapiens

        <400> 437
```

```
gtggaagagg cgtacctatt tgcaaagtgc agagcaggca tggattgcca attctggaac      60
agagcaaagc cccaacttgc cctccactgg tgatgtcaca cccacccatg aagagcctgc     120
ctctagggtt gttgaatgtt gggtcacgaa gatctcaacc tggccaaaga agagaaccca     180
gaaagatcat cacagtttct gtaaaagaag atgtacacct gaaaaaggca gaaaatgcct     240
ggaagccaag ccaaaaacga gacagccaag ccgatgatcc cgaaaacatt aaaacccagg     300
agctttttag aaaagttcga agtatcttaa ataaattgac accacagatg ttcaatcaac     360
tgatgaagca agtgtcagga cttactgttg acacagagga gcggctgaaa ggagttattg     420
acctggtctt tgagaaggct attgatgaac ccagtttctc tgtggcttac gcaaacatgt     480
gtcgatgtct agtaacgctg aaagtaccca tggcagacaa gcctggtaac acagtgaatt     540
tccggaagct gctactgaac cgttgccaga aggagtttga aaaagataaa gcagatgatg     600
atgtctttga gaagaagcag aaagaacttg aggctgccag tgctccagag gagaggacaa     660
ggcttcatga tgaactggaa gaagccaagg acaaaagccc ggcggagatc cattggcaac     720
atcaagttta ttggagaact ctttttaaact caaaatgctt gacttgaagc catcattgca     780
tgactgtgtg gtgaagctgc ttaagaaccn ttgatgaaga atccctggaa tggcctgtgt     840
cg                                                                    842
```

```
        <210> 438
        <211> 678
        <212> DNA
        <213> Homo Sapiens


        <400> 438
aaactngcan tgtntgtntt tattttgtnc tttatatttt caaagngaaa agaaatanna      60
ctgagncaat ntctttttgt ntttttaaan atttgtncta tgtatttaca ngccttaaag     120
nngctctaaa gatntcaaga gnattaanag nactttntc agggnagcac tntttttttt     180
ttaaacantt nttggngttc tgtggnccac annatttcct tntgtntcaa ngtnatgtat     240
gtnttgatna cnatngngat nttttaaann ttntgaanca agctgagagg cnngcanaaa     300
gatntgangc cnnaaaaaaa aaaatctttn ttaccttgtn caccccaaac tttttcaaat     360
ctggnctaaa tgctntacct taaaacanac atgaggggca tcttgaaggg gagggaaant     420
tatttctctg cntttctatn atacangtng tttacanaaa ctgngaatta naaaattaca     480
ctggnatttg cngaccttaa aataaattaa aagtnctcaa ctnttttttt ttttgntaaa     540
cnttttttta agnatgannc cntggttaaa aagaaaagnt ttaaaccgaa aatattttct     600
ataaataata cctggatttt ggntttaggg cccccgccct aaggnttgna ggttactttt     660
ntccnangac ctttttttcc                                                 678
```
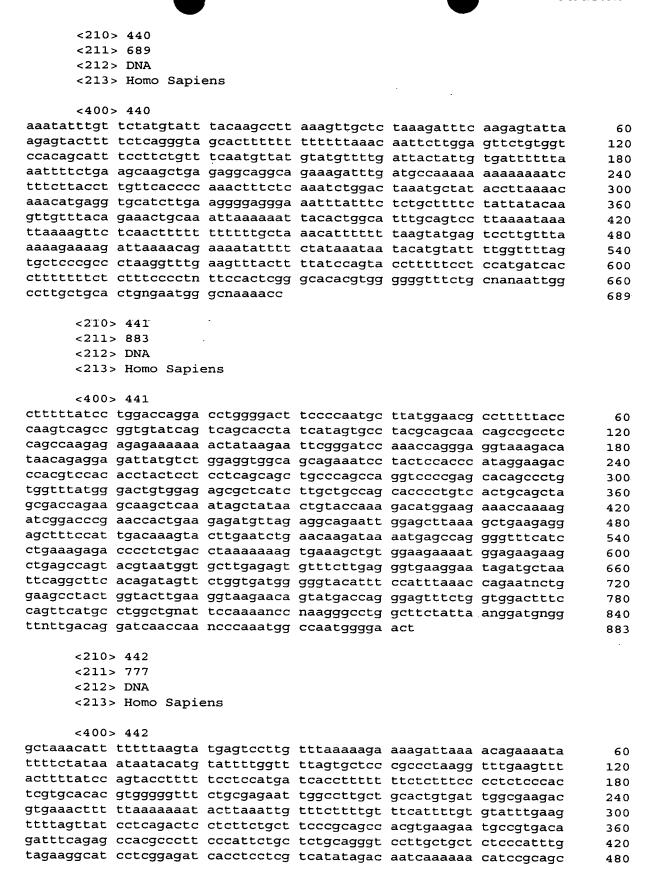
```
        <210> 439
        <211> 826
        <212> DNA
        <213> Homo Sapiens


        <400> 439
gacccttac caacaaatga aaatgatgat gatatatgca agaaaccctg tagtgtagca      60
cctaatgata ttccactggt ttctagtact aacctaatta atgaaataaa tggagttagc     120
gaaaaattat cagccacgga gagcattgtg gaaatagtaa aacaggaagt attgccattg     180
actcttgaat tggagattct cgaaaatccc ccagaagaaa tgaaactgga gtgtatccca     240
gctcccatca cccccttccac agttccttcc tttcctccaa ctcctccaac tcctccagct     300
tctcctcctc acactccagt cattgttcct gctgctgcca ctactgttag ttctccgagt     360
gctgccatca cagtccagag agtcctagag gaggacgaga gcataagaac ttgccttagt     420
gaagatgcaa aagagattca gaacaaaata gaggtagaag cagatgggca aacagaagag     480
attttggatt ctcaaaactt aaattcaaga aggagccctg tcccagctca aatagctata     540
actgtaccaa agacatggaa gaaaccaaaa gatcggaccc gaaccactga agagatgtta     600
gaggcagaat tggagcttaa agctgaagag gagctttcca ttggcaaagt acttgaatct     660
gaccaggata aaatgagcca ggggtttcat cctgaaagag acccctntgg cctaaaaaaa     720
gtgaaaagct gtggaagaaa atggagaaga actgagccag accgtaatgg ggcctgaaag     780
ggttctgang gtgaaggaat agatgcttaa ttcangcttc cccaga                    826
```
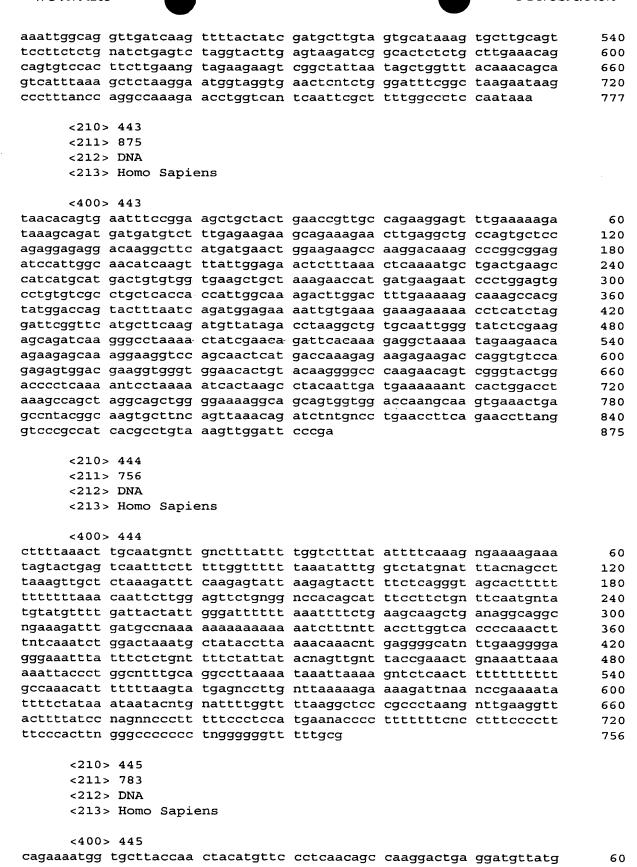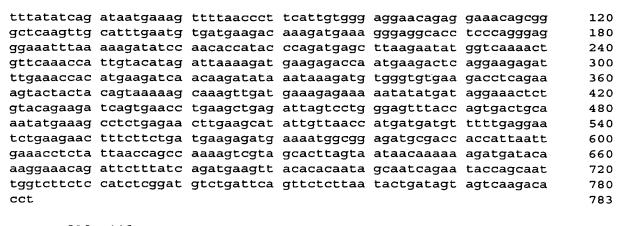
<210> 440
<211> 689
<212> DNA
<213> Homo Sapiens

<400> 440

```
aaatatttgt tctatgtatt tacaagcctt aaagttgctc taaagatttc aagagtatta      60
agagtacttt tctcagggta gcactttttt ttttttaaac aattcttgga gttctgtggt     120
ccacagcatt tccttctgtt tcaatgttat gtatgttttg attactattg tgatttttta     180
aattttctga agcaagctga gaggcaggca gaaagatttg atgccaaaaa aaaaaaaatc     240
tttcttacct tgttcacccc aaactttctc aaatctggac taaatgctat accttaaaac     300
aaacatgagg tgcatcttga aggggaggga aatttatttc tctgctttc tattatacaa     360
gttgtttaca gaaactgcaa attaaaaaat tacactggca tttgcagtcc ttaaaataaa     420
ttaaaagttc tcaactttt tttttgcta aacattttt taagtatgag tccttgttta     480
aaaagaaaag attaaacag aaaatatttt ctataaataa tacatgtatt ttggttttag     540
tgctcccgcc ctaaggtttg aagtttactt ttatccagta ccttttcct ccatgatcac     600
cttttttct ctttcccctn ttccactcgg gcacacgtgg ggggtttctg cnanaattgg     660
ccttgctgca ctgngaatgg gcnaaaacc                                       689
```

<210> 441
<211> 883
<212> DNA
<213> Homo Sapiens

<400> 441

```
cttttttatcc tggaccagga cctggggact tccccaatgc ttatggaacg cctttttacc      60
caagtcagcc ggtgtatcag tcagcaccta tcatagtgcc tacgcagcaa cagccgcctc     120
cagccaagag agagaaaaaa actataagaa ttcgggatcc aaaccaggga ggtaaagaca     180
taacagagga gattatgtct ggaggtggca gcagaaatcc tactccaccc ataggaagac     240
ccacgtccac acctactcct cctcagcagc tgcccagcca ggtccccgag cacagccctg     300
tggtttatgg gactgtggag agcgctcatc ttgctgccag caccctgtc actgcagcta     360
gcgaccagaa gcaagctcaa atagctataa ctgtaccaaa gacatggaag aaaccaaaag     420
atcggacccg aaccactgaa gagatgttag aggcagaatt ggagcttaaa gctgaagagg     480
agctttccat tgacaaagta cttgaatctg aacaagataa aatgagccag gggtttcatc     540
ctgaaagaga cccctctgac ctaaaaaaag tgaaagctgt ggaagaaaat ggagaagaag     600
ctgagccagt acgtaatggt gcttgagagt gtttcttgag ggtgaaggaa tagatgctaa     660
ttcaggcttc acagatagtt ctggtgatgg gggtacattt ccatttaaac cagaatnctg     720
gaagcctact ggtacttgaa ggtaagaaca gtatgaccag ggagtttctg gtggactttc     780
cagttcatgc ctggctgnat tccaaaancc naagggcctg cttctatta anggatgngg     840
ttnttgacag gatcaaccaa ncccaaatgg ccaatgggga act                       883
```

<210> 442
<211> 777
<212> DNA
<213> Homo Sapiens

<400> 442

```
gctaaacatt tttttaagta tgagtccttg tttaaaaaga aaagattaaa acagaaaata      60
ttttctataa ataatacatg tattttggtt ttagtgctcc cgccctaagg tttgaagttt     120
actttatcc agtacctttt tcctccatga tcaccttttt ttctctttcc cctctcccac     180
tcgtgcacac gtggggtttt ctgcgagaat tggccttgct gcactgtgat tggcgaagac     240
gtgaaacttt ttaaaaaaat acttaaattg tttcttttgt ttcattttgt gtatttgaag     300
ttttagttat cctcagactc ctcttctgct tcccgcagcc acgtgaagaa tgccgtgaca     360
gatttcagag ccacgcccct tcccattctgc tctgcagggt ccttgctgct ctcccatttg     420
tagaaggcat cctcggagat cacctcctcg tcatatagac aatcaaaaaa catccgcagc     480
```

●

●

```
aaattggcag gttgatcaag ttttactatc gatgcttgta gtgcataaag tgcttgcagt      540
tccttctctg natctgagtc taggtacttg agtaagatcg gcactctctg cttgaaacag      600
cagtgtccac ttcttgaang tagaagaagt cggctattaa tagctggttt acaaacagca      660
gtcatttaaa gctctaagga atggtaggtg aactcntctg ggatttcggc taagaataag      720
ccctttancc aggccaaaga acctggtcan tcaattcgct tttggccctc caataaa        777
```

```
        <210> 443
        <211> 875
        <212> DNA
        <213> Homo Sapiens


        <400> 443
taacacagtg aatttccgga agctgctact gaaccgttgc cagaaggagt ttgaaaaaga       60
taaagcagat gatgatgtct ttgagaagaa gcagaaagaa cttgaggctg ccagtgctcc      120
agaggagagg acaaggcttc atgatgaact ggaagaagcc aaggacaaag cccggcggag      180
atccattggc aacatcaagt ttattggaga actctttaaa ctcaaaatgc tgactgaagc      240
catcatgcat gactgtgtgg tgaagctgct aaagaaccat gatgaagaat ccctggagtg      300
cctgtgtcgc ctgctcacca ccattggcaa agacttggac tttgaaaaag caaagccacg      360
tatggaccag tactttaatc agatggagaa aattgtgaaa gaaagaaaaa cctcatctag      420
gattcggttc atgcttcaag atgttataga cctaaggctg tgcaattggg tatctcgaag      480
agcagatcaa gggcctaaaa ctatcgaaca gattcacaaa gaggctaaaa tagaagaaca      540
agaagagcaa aggaaggtcc agcaactcat gaccaaagag aagagaagac caggtgtcca      600
gagagtggac gaaggtgggt ggaacactgt acaaggggcc caagaacagt cgggtactgg      660
acccctcaaa antcctaaaa atcactaagc ctacaattga tgaaaaaant cactggacct      720
aaagccagct aggcagctgg ggaaaaggca gcagtggtgg accaangcaa gtgaaactga      780
gccntacggc aagtgcttnc agttaaacag atctntgncc tgaaccttca gaaccttang      840
gtcccgccat cacgcctgta aagttggatt cccga                                 875
```

```
        <210> 444
        <211> 756
        <212> DNA
        <213> Homo Sapiens


        <400> 444
cttttaaact tgcaatgntt gnctttattt tggtctttat attttcaaag ngaaaagaaa       60
tagtactgag tcaatttctt tttggttttt taaatatttg gtctatgnat ttacnagcct      120
taaagttgct ctaaagattt caagagtatt aagagtactt ttctcagggt agcactttt       180
tttttttaaa caattcttgg agttctgngg nccacagcat ttccttctgn ttcaatgnta      240
tgtatgtttt gattactatt gggatttttt aaattttctg aagcaagctg anaggcaggc      300
ngaaagattt gatgccnaaa aaaaaaaaaa aatctttntt accttggtca ccccaaactt      360
tntcaaatct ggactaaatg ctatacctta aaacaaacnt gaggggcatn ttgaagggga      420
gggaaattta tttctctgnt tttctattat acnagttgnt taccgaaact gnaaattaaa      480
aaattaccct ggcntttgca ggccttaaaa taaattaaaa gntctcaact ttttttttt        540
gccaaacatt tttttaagta tgagnccttg nttaaaaaga aaagattnaa nccgaaaata      600
ttttctataa ataatacntg nattttggtt ttaaggctcc cgccctaang nttgaaggtt      660
actttttatcc nagnnccctt tttccctcca tgaanaccc ttttttttcnc ctttcccctt     720
ttcccacttn gggcccccc tngggggtt tttgcg                                  756
```

```
        <210> 445
        <211> 783
        <212> DNA
        <213> Homo Sapiens


        <400> 445
cagaaaatgg tgcttaccaa ctacatgttc cctcaacagc caaggactga ggatgttatg       60
```

```
tttatatcag ataatgaaag tttttaaccct tcattgtggg aggaacagag gaaacagcgg    120
gctcaagttg catttgaatg tgatgaagac aaagatgaaa gggaggcacc tcccagggag    180
ggaaatttaa aaagatatcc aacaccatac ccagatgagc ttaagaatat ggtcaaaact    240
gttcaaacca ttgtacatag attaaaagat gaagagacca atgaagactc aggaagagat    300
ttgaaaccac atgaagatca acaagatata aataaagatg tgggtgtgaa gacctcagaa    360
agtactacta cagtaaaaag caaagttgat gaaagagaaa aatatatgat aggaaactct    420
gtacagaaga tcagtgaacc tgaagctgag attagtcctg ggagtttacc agtgactgca    480
aatatgaaag cctctgagaa cttgaagcat attgttaacc atgatgatgt ttttgaggaa    540
tctgaagaac tttcttctga tgaagagatg aaaatggcgg agatgcgacc accattaatt    600
gaaacctcta ttaaccagcc aaaaagtcgta gcacttagta ataacaaaaa agatgataca    660
aaggaaacag attctttatc agatgaagtt acacacaata gcaatcagaa taccagcaat    720
tggtcttctc catctcggat gtctgattca gttctcttaa tactgatagt agtcaagaca    780
cct                                                                  783
```

        <210> 446
        <211> 866
        <212> DNA
        <213> Homo Sapiens

        <400> 446

```
agattacaac acacatacaa taagtgaatt ttatcaaaat acagcacatt tcttctacta    60
tatccataaa aatcaattcc tatgtaaata gtactgaaaa tcaactaaaa tgagttaaaa    120
tttacaaaga gttgttaaag ggtttcaatc aaaattatta aaactataca gtacaataac    180
caattgataa catcttgaaa gaagtgcaat atttgagttc acatattttt aaaagtgctg    240
cctacttact ctgactagca agaatggaaa gtgagtccaa ctcactttg caaaaataat    300
gttggttggt gttttaagct agtcttataa aagtcttaat taaaatcaag gttgataaac    360
aaagcataac agattaaaaa ttcccaaatt gcatttctta gtaaataaaa atgaagtgca    420
ataaccaaat attgctctaa tgaaaggttc cagactagcc tcaactaaac agttattggt    480
cttctatggc acttttttct ggtccaaata accatgcatt aatccttacc attacatgtt    540
actcaaattt tatttgatta catagaacaa aaacaaataa aattaatggt ctggataaac    600
aaaattaata aacctctatc atcaaatatt tgttacagta actaggaaca aagaaaggca    660
gtttggtggg taaaacacta ttacactgat ccccatagga aacccctta aagactctgg    720
aagtgttgag ttcacattta atggtacctg tagaaacagn cctttatttg dacacctta    780
cccactggca ngccctaang gacccatccc tttgctctat aacttttcac aagcaattct    840
ctaatcctgg gccagtttnc aaaagc                                        866
```

        <210> 447
        <211> 789
        <212> DNA
        <213> Homo Sapiens
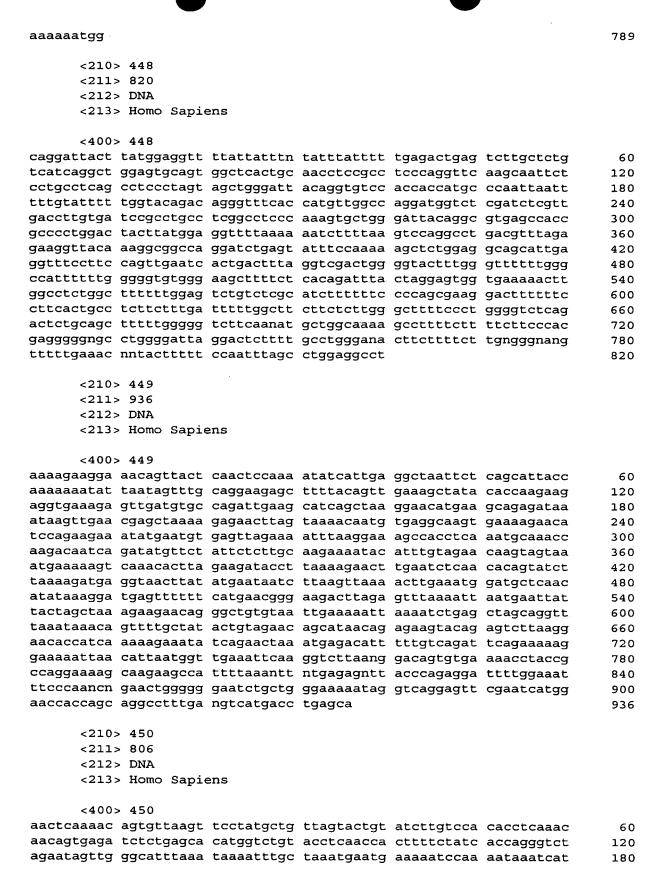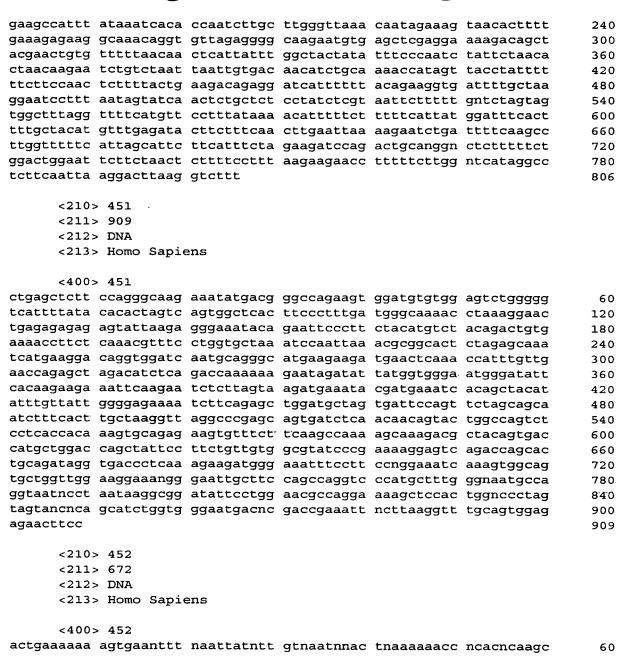
        <400> 447

```
gtcacgttgg aatgcaaatt gagcacatca ttgaaaacat tgttgctgtc accaaaggac    60
tttcagaaaa attgccagag aagtgggaga gcgtgaaact cctgtttgtg aaaactgaga    120
aatcggctgc acttcccatc ttttcctcgt ttgtcagcaa ttgggatgaa gccaccaaaa    180
gatctttgct aataagaag aaaaaagagg caaggagaaa acgaagagaa agaaattttg    240
aaaaacaaaa ggagaggaag aagaagaggc agcaggctag gaagactgca tcagttctta    300
gtaaagatga tgtggcacct gaaagtggtg atactacagt gaagaaacct gaatcaaaga    360
aggaacagac cccagagcat gggaagaaaa aacgtggcag aggaaaagcc caagttaaag    420
caacaaatga atccgaagac gaaatcccac agctggtacc aataggaaag aagactccag    480
ctaatgaaaa agtagagatt caaaaacatg ccacaggaaa gaagtctcca gcaaagagtc    540
ctaatcccag cacacctcgt gggaagaaaa gaaaggcttt gccagcatct gagaccccaa    600
aagctgcaga gtctgagacc ccagggaaaa gcccagagaa gaagccaaaa atcaaagaag    660
agcagtgaag gaaaaaagtc cttcgctggg gaaaaaagat gccgaagaca gacttcaaaa    720
aagccagang ccaggttttc ccactcctag taaatctgtg agaaagcttt ccacaccccc    780
```

aaaaaatgg   789

```
        <210> 448
        <211> 820
        <212> DNA
        <213> Homo Sapiens


        <400> 448
caggattact tatggaggtt ttattatttn tatttatttt tgagactgag tcttgctctg        60
tcatcaggct ggagtgcagt ggctcactgc aacctccgcc tcccaggttc aagcaattct       120
cctgcctcag cctccctagt agctgggatt acaggtgtcc accaccatgc ccaattaatt       180
tttgtatttt tggtacagac agggtttcac catgttggcc aggatggtct cgatctcgtt       240
gaccttgtga tccgcctgcc tcggcctccc aaagtgctgg gattacaggc gtgagccacc       300
gcccctggac tacttatgga ggttttaaaa aatcttttaa gtccaggcct gacgtttaga       360
gaaggttaca aaggcggcca ggatctgagt atttccaaaa agctctggag gcagcattga       420
ggtttccttc cagttgaatc actgacttta ggtcgactgg ggtactttgg gttttttggg       480
ccattttttg ggggtgtggg aagcttttct cacagattta ctaggagtgg tgaaaaactt       540
ggcctctggc ttttttggag tctgtctcgc atcttttttc cccagcgaag gactttttc        600
cttcactgcc tcttctttga tttttggctt cttctcttgg gcttttccct ggggtctcag       660
actctgcagc tttttggggg tcttcaanat gctggcaaaa gccttttctt ttcttcccac       720
gaggggggngc ctggggatta ggactctttt gcctgggana cttcttttct tgngggnang       780
tttttgaaac nntactttt ccaatttagc ctggaggcct                              820


        <210> 449
        <211> 936
        <212> DNA
        <213> Homo Sapiens


        <400> 449
aaaagaagga aacagttact caactccaaa atatcattga ggctaattct cagcattacc        60
aaaaaaatat taatagtttg caggaagagc ttttacagtt gaaagctata caccaagaag       120
aggtgaaaga gttgatgtgc cagattgaag catcagctaa ggaacatgaa gcagagataa       180
ataagttgaa cgagctaaaa gagaacttag taaaacaatg tgaggcaagt gaaaagaaca       240
tccagaagaa atatgaatgt gagttagaaa atttaaggaa agccacctca aatgcaaacc       300
aagacaatca gatatgttct attctcttgc aagaaaatac atttgtagaa caagtagtaa       360
atgaaaaagt caaacactta gaagatacct taaaagaact tgaatctcaa cacagtatct       420
taaaagatga ggtaacttat atgaataatc ttaagttaaa acttgaaatg gatgctcaac       480
atataaagga tgagtttttt catgaacggg aagacttaga gtttaaaatt aatgaattat       540
tactagctaa agaagaacag ggctgtgtaa ttgaaaaatt aaaatctgag ctagcaggtt       600
taaataaaca gttttgctat actgtagaac agcataacag agaagtacag agtcttaagg       660
aacaccatca aaaagaaata tcagaactaa atgagacatt tttgtcagat tcagaaaaag       720
gaaaaattaa cattaatggt tgaaattcaa ggtcttaang acagtgtga aaacctaccg        780
ccaggaaaag caagaagcca ttttaaantt ntgagagntt acccagagga ttttggaaat       840
ttcccaancn gaactggggg gaatctgctg ggaaaaatag gtcaggagtt cgaatcatgg       900
aaccaccagc aggcctttga ngtcatgacc tgagca                                 936


        <210> 450
        <211> 806
        <212> DNA
        <213> Homo Sapiens


        <400> 450
aactcaaaac agtgttaagt tcctatgctg ttagtactgt atcttgtcca caccctcaaac       60
aacagtgaga tctctgagca catggtctgt acctcaacca cttttctatc accagggtct       120
agaatagttg ggcatttaaa taaaatttgc taaatgaatg aaaaatccaa aataaatcat       180
```

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```
gaagccattt ataaatcaca ccaatcttgc ttgggttaaa caatagaaag taacactttt    240
gaaagagaag gcaaacaggt gttagagggg caagaatgtg agctcgagga aaagacagct    300
acgaactgtg tttttaacaa ctcattattt ggctactata ttcccaatc tattctaaca    360
ctaacaagaa tctgtctaat taattgtgac aacatctgca aaaccatagt tacctatttt    420
ttcttccaac tcttttactg aagacagagg atcatttttt acagaaggtg attttgctaa    480
ggaatccttt aatagtatca actctgctct cctatctcgt aattctttt gntctagtag    540
tggctttagg ttttcatgtt cctttataaa acattttct ttttcattat ggatttcact    600
tttgctacat gtttgagata cttctttcaa cttgaattaa aagaatctga ttttcaagcc    660
ttggttttc attagcattc ttcatttcta gaagatccag actgcanggn ctcttttct    720
ggactggaat tcttctaact ctttttccttt aagaagaacc tttttcttgg ntcataggcc    780
tcttcaatta aggacttaag gtcttt    806
```

```
<210> 451
<211> 909
<212> DNA
<213> Homo Sapiens
```

```
<400> 451
ctgagctctt ccagggcaag aaatatgacg ggccagaagt ggatgtgtgg agtctggggg     60
tcatttata cacactagtc agtggctcac ttcctttga tgggcaaaac ctaaaggaac    120
tgagagagag agtattaaga gggaaataca gaattcctt ctacatgtct acagactgtg    180
aaaaccttct caaacgtttc ctggtgctaa atccaattaa acgcggcact ctagagcaaa    240
tcatgaagga caggtggatc aatgcagggc atgaagaaga tgaactcaaa ccatttgttg    300
aaccagagct agacatctca gaccaaaaaa gaatagatat tatggtggga atgggatatt    360
cacaagaaga aattcaagaa tctcttagta agatgaaata cgatgaaatc acagctacat    420
atttgttatt ggggagaaaa tcttcagagc tggatgctag tgattccagt tctagcagca    480
atctttcact tgctaaggtt aggcccgagc agtgatctca acaacagtac tggccagtct    540
cctcaccaca aagtgcagag aagtgtttct tcaagccaaa agcaaagacg ctacagtgac    600
catgctggac cagctattcc ttctgttgtg gcgtatcccg aaaaggagtc agaccagcac    660
tgcagatagg tgaccctcaa agaagatggg aaatttcctt ccnggaaatc aaagtggcag    720
tgctggttgg aaggaaangg gaattgcttc cagccaggtc ccatgctttg ggnaatgcca    780
ggtaatncct aataaggcgg atattcctgg aacgccagga aaagctccac tggnccctag    840
tagtancnca gcatctggtg ggaatgacnc gaccgaaatt ncttaaggtt tgcagtggag    900
agaacttcc    909
```

```
<210> 452
<211> 672
<212> DNA
<213> Homo Sapiens
```

```
<400> 452
actgaaaaaa agtgaanttt naattatntt gtnaatnnac tnaaaaaacc ncacncaagc     60
aatgttcaca antntaaatt naaacctttt gcactaaaaa ancacaaaan ancaaacaca    120
aaaccacagg cntgaactgn aaacctgtct taactatgaa ctggncttaa ggttaattct    180
tannngccat tcantatttc nntccttggn aactgtaatg ttntagcacc ggatgatctc    240
ccgnanaggt nctagaanng acngnctgcc agngnangga gatncttccn tatacaccac    300
ttnanacnca taccgtcnan tttcanaccn acccagacgg nangcacatg gngatggggc    360
cncacnccna ctntnanggn aacggaagta gggcaggngg cgcatnggtt gcacatcttt    420
aatgtattgc attcgnaaaa aaaaggccag ntttcnatcc caggcgtgct ctngacctna    480
gactttaatn ncatgattta naanatncag nacgntattg cctaaatntt attctataca    540
tttccatcag tggttnagga aaacacttta aatgcaactn anttccacat canannncact    600
gnggttacag ntttagctca ttgggcaatt tttngaagca atttttttnng aaangctntt    660
ggaatgnccc cc    672
```

```
<210> 453
```

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```
<211> 834
<212> DNA
<213> Homo Sapiens

<400> 453
aagaagccaa gaagtctgaa gaaccaagaa ttcggaagaa gccgggaccc aagcccggat    60
ggaagaagaa gcttcgttgt gagagggagg agcttcccac catctacaag tgtccttacc   120
agggctgcac ggccgtgtac cgaggcgctg acggcatgaa gaagcacatc aaggagcacc   180
acgaggaggt ccgggagcgg ccctgccccc accctggctg caacaaggtt ttcatgatcg   240
accgctacct gcagcgccac gtgaagctca tccacacaga ggtgcggaac tatatctgtg   300
acgaatgtgg acaaaccttc aagcagcgga agcaccttct cgtccaccaa atgcgacatt   360
cgggagccaa gcctttgcag tgtgaggtct gtgggttcca gtgcaggcag cgggcatccc   420
tcaagtacca catgaccaaa cacaaggctg agactgagct ggactttgcc tgtgaccagt   480
gtggccggcg gtttgagaag gcccacaacc tcaatgtaca catgtccatg gtgcacccgc   540
tgacacagac ccaggacaag gccctgccct ggaggcggaa ccaccacctg gccaccgag    600
cccctctgtg accacagacg gccaggcggt gaagcccgaa cccacctgag gacggcagtg   660
aggatgagca cctctagcag cctggacttc gcagtggctg tgtcaagcct caccottcgt   720
gtgcacccgc atgggagggt cggagggttg cttgccgncc ttggtgctgg angcgggctt   780
ggtgtccggc tcaagtagcc ttctttgntc ttgggaccag tgggttattt tccc          834
```

```
<210> 454
<211> 703
<212> DNA
<213> Homo Sapiens

<400> 454
cccgtgtaaa taatttatta caagcataac atggagctct tgttgcacta aaaagtggat    60
tacaaatctc ctcgactgct ttagtgggga aaggaatcaa ttatttatga actgtccggc   120
cccaagtcac tcagcgtttg cgggaaaata aaccactggt cccagagcag aggaaggcta   180
cttgagccgg acaccaagcc cgcctccagc accaagggcg ggcagcaccc tccgaccctc   240
ccatgcgggt gcacgaag ggtgaggctg acacagccac tgcggagtcc aggctgctan    300
aggtgctcat cctcactgcc gtcctcaggt gggttcgggc ttcaccgcct ggccgtctgt   360
ggtcacagag gggctcggtg gcccaggtgg tggttccgcc tcaggggca gggccttgtc    420
ctgggtctgt gtcagcgggt gcaccatgga catgtgtaca ttgaggttgt gggccttctc   480
aaaccgccgg ccacactggt cacaggcaaa gtccagctca gtctcagcct tgngtttggt   540
catgtggtac ttgagggatg cccgctgcct gcactggaac ccacagacct cacactgcaa   600
aggcttggct nccgaatgtc gcatttgggg gacgaaaaag gtgcttccgc tgcttgaaag   660
gnttggccca attnggtaca agatatagtt ccccaccttt ggg                      703
```

```
<210> 455
<211> 825
<212> DNA
<213> Homo Sapiens

<400> 455
atggcaatca ggaaaaggtg ccagaacccg aggctttgga ccttccagat gacttgaacc    60
ttgacagtga agacaagaat ggtggtgagg acaccgacaa tgaagaagga gaagaagaga   120
atcctttgga gataaaagaa aaaccagaag aagcaggtca tgaagctgag gaaagaggag   180
agaccgagac cgaccagaac gaaagtcaga gtccacagga gcctgaggaa ggccccagtg   240
aagatgacaa ggcagaaggg gaagaggaaa tggacacagg agctgatgac caagatggag   300
atgctgctca gcatcctgaa gaacactctg aggagcagca gcagtctgtg gaggaaaaag   360
acaaggaagc cgatgaagaa ggtggagaga atggccctgc tgaccaaggt ttccagcccc   420
aggaggaaga agaacgggag gactctgata cagaggagca ggtgccagag gctttggaga   480
ggaaggagca tgcctcctgt gggcagactg gtgtggagaa catgcagaac acacaggcca   540
tggagctggc tggggccgca cctgagaagg agcaggggaa agaggaacac ggaagtggag   600
```

```
ctgcagatgc aaaccaggca gaaggccatg aatcgaattt cattgcccag ttggccttcc       660
agaacacacc aggaaaaaca cacagagttt taagaggaaa cctgggcagg cttgacaatt       720
gaacgttnca tgggtgatca caattgaacg tgtgcacaag aagctganga cttgtggaat       780
ccggacaggc attgccaacc aggggccagc ttaacaagcc ccagg                       825
```

```
        <210> 456
        <211> 740
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 456
acatcaacaa cagtggtata tgttttaata gttttcagaa tataagctgc atagcttttt       60
agaataaaaa atgatataac ttcaggtaca tgctttggga cacttggtta aacaaggaat      120
ctgtgtcttt gatgaccacc tcaaaagggg cgcagacttc acagtgtaac ttggaaacag      180
acaaggagat agatgattac atcatgacat actgcctaca aagaacatt ctgacagaac       240
attaagtaga acagagcaca cagtttcaag tattcagcac tgctttctgg ccaagtaaaa      300
actgcctaaa gatcagtttc tttcgactgg aaaaaataga tggagctgct gagttctgga      360
cacagcgttt ctttcccaga atgagactgg ctcagtccag cttgaaagca gtgtgaggaa      420
tcactcttcc ccttgactgt taagaaaaaa aaaatgaac taaacaaata aattactaca       480
acaacaggga ccatggcact gaatgaaata aggggcaat caccttccca tcattgcata       540
gtctcccgaa gcagcaagtg tgaaagagga tactgaaag ccacttcatt tttacacagc       600
ccaagggatc gtttttatng atgacctggg cacctataat gnccagttgc tttatgagaa      660
ccacacacac accacattct tcctaccctn taagagaagg taggttcctt tcacaataag      720
gaaaacccc ccttatactt                                                    740
```

```
        <210> 457
        <211> 726
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 457
aaaatgtagt caactttatt ctccttaaac cacaaaatag agtctttggt tgtacaaaca       60
tcactagtta cagtctcgcc gaggtctcgg ctggggtggg gcagttagtt agtcacaggc      120
cagaactcct gtggggtctc tttaaaatgc taacacccag gttaaaagac ttggggcaag      180
ggtggtgctg gagctggcag ggcccccacc ccaagtctgg gggaggtgcc tgctcctcta      240
ggagggcaca gggcccaggc cacggcgccc aggccttacg gggcggcggc tgctgcacag      300
tgccacatct tcagggccca cagcgccggg tgagggcctg cccagaagca ccagagccac      360
ttctccatcc tcctcctgcg ggccagggct gggagatggt tccagggacc tcaactcctc      420
agcaaagtcc ggtgacaggc gtcccgggga ggtgctggtc tgggggccga ggtcttccac      480
aggggtgggc gacggggtgg gcccagggga aggggcctcg gccagtcgct ccaggggccc      540
ccgcgtgccc cggcctttct gggacctgct gaggaccatc tgtgctcgga gagcgtcctg      600
ttccaatgac ttcatcctgg ctggccttca caagcgcacg cttctcggnc ttcagggccc      660
cggacttcgg caaggggaca nggcacgctt cgggtgccgg tggcttccgg actttggacg      720
ccgcaa                                                                  726
```

```
        <210> 458
        <211> 870
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 458
cgcggcctct ccgccgggtg taccacctgt cgcggcgcga gacctctggt gaaagaaaag       60
atgttgtccc ggttaagagt agtttccacc acttgtactt tggcatgtcg acatttgcac      120
ataaaagaaa aaggcaagcc acttatgctg aacccaagaa caaacaaggg aatggcattt      180
actttacaag aacgacaaat gcttggtctt caaggacttc tacctcccaa aatagagaca      240
```

```
caagatattc aagccttacg atttcataga aacttgaaga aaatgactag ccctttggaa    300
aaatatatct acataatggg aatacaagaa agaaatgaga aattgtttta tagaatactg    360
caagatgaca ttgagagttt aatgccaatt gtatatacac cgacggttgg tcttgcctgc    420
tcccagtatg gacacatctt tagaagacct aagggattat ttatttcgat ctcagacaga    480
ggtcatgtta gatcaattgt ggataactgg ccagaaaatc atgttaaggc tgttgtagtg    540
actgatggag agagaattct gggtcttgga gatctgggtg tctatggaat gggaattcca    600
gtaggaaaac tttgttgnat cagcttgtgc aggaatacgg cctgatagat gcctgccagt    660
gtgtattgat gtgggaactg ataatatcgc actcttaaaa ganccatttt acatgggctt    720
gaccagaaac gagatcgcac ccacagttga tganctgatg gatgagttta tgaaagcttt    780
actgacagat atggccggaa cacctttatt cagttcgaag acnttggaaa tcataangcc    840
ttcaggtctt tgagaaagtc cggggaaaaa                                    870
```

          <210> 459
          <211> 761
          <212> DNA
          <213> Homo Sapiens

          <400> 459

```
aaatgtaaga tatttattaa ataaaaaggt tacactatga ttttttataca ctgttgaaaa    60
caatgacttt tatttactta aagccagcag tagttcccat tactctcata atgttatagt    120
taaggcttga tttagttcca gaaaataaat agggtaaatt tttaatattt ccctagctct    180
gtctgctata gggaatttca gagtatgaag gtaagatgaa gcagatatat aagaacattt    240
ttagataatg acaattttc cttaaaattt ggtgaaaatt tagtttcttc tcaaaattct    300
gtacttctat ccataaaagt aaatttctat tttagtagct ctgtaagaac taggccagag    360
aagagtatta cccataatag taaatagcaa atactttggc aagtctgaat tagagtacaa    420
gtgaagacat tcacaaacac acttttaca tctcctggat gtggtacggg ctgtatgtta    480
gaattaaagc atcacaacta tctgattgta gggtgctggt gggcaatgca atcaatcaac    540
acgtctaccc caacagatgt ggagacccat ggaaaaaata catcaaccaa agtggtcagg    600
gagaacaaaa ccccagaaaa cacccttaaa actgaagaca ttatctcttc ttggctgaaa    660
aaagggggttc cctggagcac angaaaggtt ttatcaaggg aggcttctat tcngtaatca    720
caggaaggct tgatgcanat tcctggccat tcataccccca t                       761
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          <210> 460
          <211> 876
          <212> DNA
          <213> Homo Sapiens
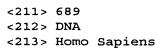
          <400> 460

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ctgagctcct gaagcgccct aaggagtaca ctgtgcgctt cactttccca gaccccccac    60
cactcagccc tccagtgctg ggtctgcatg gtgtgacatt cggctaccag ggacagaaac    120
cactctttaa gaacttggat tttggcatcg acatggattc aaggatttgc attgtgggcc    180
ctaatggtgt ggggaagagt acgctactcc tgctgctgac tggcaagctg acaccgaccc    240
atggggaaat gagaaagaac caccggctga aaattggctt cttcaaccag cagtatgcag    300
agcagctgcg catggaggag acgcccactg agtacctgca gcggggcttc aacctgccct    360
accaggatgc ccgcaagtgc ctgggccgct cggcctgga gagtcacgcc cacaccatcc    420
agatctgcaa actctctggt ggtcagaagg cgcgagttgt gtttgctgag ctggcctgtc    480
gggaacctga tgtcctcatc ttggacgagc caaccaataa cctggacata gagtctattg    540
atgctctagg ggaggccatc aatgaataca agggtgctgt gatcgttgtc agccatgatg    600
cccgactcat cacagaaacc aattgccagc ttgtgggtgg tggaggaaca gagtggtagc    660
ccaatcgatg gtgactttga agactacaag ccgggaggtg ttggaagccc tgggtgaagt    720
catggcagc cnggccccga naagtgaagc tttnctttcc agaagtntcc gagagaacat    780
aattgggggg gcctaaaann cctctggggg cttcccttct tttgaanaat gctntggnct    840
gcaantgact tggcaaccat ttaggcccct taaagg                              876
```

          <210> 461

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<211> 689
<212> DNA
<213> Homo Sapiens

<400> 461
gcaaacaaga tccatttagt ggggaagagg ggactattaa aagctgctag aaaactgaat      60
aaagcaaatc aagactgaga acagttccaa ctcccatcaa tctccaaaca gtgacaggtc     120
ggcagcaact cctttccttt atttcttccc cttgtaaagg gaaattcaag ttcagcagca     180
ttcctttcct gccccaagtc ctcaaccaga caagaggctg caggcaccaa atcttgggct     240
ggataatggc aaaggcctca gaagctcacc tccagctctg agcttcaaca gctgtttgta     300
ccagtgagtc agcattaaat ccaccagaaa agaacagcac cacccaaaga ctggggggca     360
gctgggcctg aagctgtagg gtaaatcaga ggcaggcttc tgagtgatga gagtcctgag     420
acaataggcc acataaactt ggctggatgg aacctcacaa taaggtggtc acctcttgtt     480
tgtttagggg gatgccaagg ataaggccag ctcagttata tgaagagaag cagaacaaac     540
aaagtctttc agagaaatgg atgcaatcag aagtgggatc cccggncaca tcaaggtcac     600
actccacctt catgtgcctg aaatggttgc caggtcagct gcaggcccan aggcagtctt     660
canaaggaag gggagaccac agaggactt                                       689


<210> 462
<211> 840
<212> DNA
<213> Homo Sapiens

<400> 462
aggagccttt ggagttccat gccaagcggc cttggcgccc cgaggaggca gtagaagatc      60
cggacgagga ggatgaggat aatactagtg aagccgagaa tgggttctcc ctggaggaag     120
tgttacggct cggaggcacc aagcaagatt accttatgct ggctactttg atgagaatg      180
aggaagtgat agatggaggc aaaaaaggag caatcgatga ccttcagcaa ggtgaattgg     240
aagcatttat tcaaaatctt aatttggcga agtatacaaa agcttcctta attgaagaag     300
atgaaccagc tgaaaaagaa aattccagca aaaagaagt aaaaatacct aaaataaata     360
ataaaaatac agcagaaagt caaaggacat cagttaataa ggtgaaaaat aagaataggc     420
cagaaccaca ttctgatgag aatggcagta ccacaccgaa agtaaagaaa gataaacaga     480
acatctttga attttttgag agacagactt tgttacttag gcctggaggc aaatggtatg     540
atctggagta cagcaatgaa tattctttga aaccccagcc tcaggatgtt gnatctaagt     600
acaaaaccct tgctcagaag ctgtatcagc atgaaatcaa cttattcaaa agtaagacga     660
atagtcaaaa gggagcctct tctacctgga tgaaaggcaa ttgtgtcatc ggggaccact     720
aggtgacagg atggcagcca ttgattcttc ttattcagga tgatgcccgt tcacaccact     780
ttcagnttgt agnaaactct tggggaaccc ttggtaaaaa ggaanggcna caaaacagca     840


<210> 463
<211> 784
<212> DNA
<213> Homo Sapiens

<400> 463
agatgtaagt agaattttaa tctataattt acattaataa ctcatttcct ttgttttta      60
gttttttgag tggtttttaat cctcttcttt ttaaaatgtt tcttttttctt gatgatactt     120
tttgcatctc tgttgtgtag ccagtcatca cgttcagcct cccatctaag ctgtttgaga     180
cttgcattat ctttgttagc catggcattc atgccaatgt tatcaaactt ggatcccata     240
ttttcatcca atagatggcc aaactcttca gcagatacaa ataggctgga atcatttaag     300
tttcttttct ttttttcttgg cccttgaaat gagccagcaa agtcaaaatc atctgtacct     360
tttctcttgc ttttcttagt actgactttg gagtggactt caagttctgg aacactctca     420
ctttcatcat ctaacacatc catgaatgtt cctccatctt catcaacttc agcaaattct     480
tcatcatcca tacttcctaa agaaacttca tcgtcatcca ggttaccaag ttcatcatca     540
ctaccttctg aatcttcatc taatgtgtta tccttagctc cttttggtct ctttttcacg     600
```

```
tttccagcaa aaatccatat catcctttnc agagctgaaa cagttatcat cttcaaatgt       660
gtcaatcagc tcttcaaatt ctttcatcat ccacgtcctt ctaatacttt cttcaatctg       720
catccccgtt tttggnttct cttttaanca gcaacttttt ttatnaaacc ctggggggaaa      780
aaac                                                                    784


        <210> 464
        <211> 850
        <212> DNA
        <213> Homo Sapiens


        <400> 464
caggcatcgg ccaccggaac agcctggaga gcatctcttc catcgaccgg gagctgagcc        60
ctgagggccc aggcaaggag aaggagctgc ctggacagac cctgcactgg gggcccgagg       120
ccacagaagc cgcaggtcgg ggtctgcagc ccctgaagct ggactaccgc gccctggccg       180
ccgtgcccag cgctggcagc gtgcagaggg taccgtctgg agcagctgga gggaagatgg       240
ctgaatctcc ctgctccccct agtggccagc agccgccctc ccgccttct ccggatgagc       300
tgcccgccaa tgtgaagcag gcctacaggg ccttcgcggc cgtgcccact tctcacccgc        360
ctgaggatgc ccctgcccag ccccccacgc ctgggcctgc agcctccccg·gagcagctgt        420
ccttccggga gcggcagaag tactttgagc tggaggtgcg cgtgccccag gccgagggcc        480
cccctaagcg cgtgtccctg gtgggtgctg acgacctgcg gaagatgcag gaggaggaag        540
ccagaaaact acagcagaag agagcgcaga tgctgcggga ggcggcagaa gctggggccg        600
aagcgaggct ngccctggac ggggagacgc tgggcgagga ggaacaggan gatgagcagc        660
caccctgggc cagcccgagc cccacttaag gcagaacccg gcgtccccccc ggccctggaa       720
gtggcgcccc ggtgcggacg gncaaaagct gaacggggcc ancaggaacc ggttgccctt       780
canagtnccg gacccaccgg gaccccancg tgccctggtc ccttgcccaa cttccgggcc       840
ctggaaggcc                                                             850


        <210> 465
        <211> 759
        <212> DNA
        <213> Homo Sapiens


        <400> 465
aaaatgtagt caactttatt ctccttaaac cacaaaatag agtctttggt tgtacaaaca        60
tcactagtta cagtctcgcc gaggtctcgg ctggggtggg gcagttagtt agtcacaggc       120
cagaactcct gtggggtctc tttaaaatgc taacacccag gttaaaagac ttggggcaag       180
ggtggtgctg gagctggcag ggcccccacc ccaagtctgg gggaggtgcc tgctcctcta       240
ggagggcaca gggcccaggc cacggcgccc aggccttacg gggcggcggc tgctgcacag       300
tgccacatct tcagggccca cagcgccggg tgagggcctg cccagaagca ccagagccac       360
ttntccatcc tcctcctgcg ggccagggct gggagatggt tccaggacc tcaactcctc        420
agcaaagtcc ggtgacaggc gtcccggggga ggtgctggtc tggggggccga ggtcttccac      480
aggggtgggc gacggggtgg gcgcagggga aggggcctcg gccagtcgct ccaggggccc       540
ccgcgtgccc cggcctttct gggacctgct gaggaccatc tgggctcngg aaagcgtcct       600
tgttccaatg acttcatcct ggctgccctt cacagngcac gcttntcggc ttcagggccc       660
ggagctttgg cangggggaca aggcaacgct tcgggtgccc ggtgggttcc ggactttga        720
acgcgccaan ccggttcctt ggngggcgcc cgtttcaac                              759


        <210> 466
        <211> 1240
        <212> DNA
        <213> Homo Sapiens


        <400> 466
gtggtagtgg tgccggagct ggaggcggag gcatgtttgg tagtggcggt ggaggagggg        60
gcactggaag tacaggtcca gggtatagct tcccacacta tggatttcct acttatggtg       120
```

-247-

```
ggattacttt  ccatcctgga  actactaaat  ctaatgctgg  gatgaagcat  ggaaccatgg     180
acactgaatc  taaaaaggac  cctgaaggtt  gtgacaaaag  tgatgacaaa  aacactgtaa     240
acctctttgg  gaaagttatt  gaaaccacag  agcaagatca  ggagcccagc  gaggccaccg     300
ttgggaatgg  tgaggtcact  ctaacgtatg  caacaggaac  aaaagaagag  agtgctggag     360
ttcaggataa  cctctttcta  gagaaggcta  tgcagcttgc  aaagaggcat  gccaatgccc     420
ttttcgacta  cgcggtgaca  ggagacgtga  agatgctgct  ggccgtccag  cgccatctca     480
ctgctgtgca  ggatgagaat  ggggacagtg  tcttacactt  agcaatcatc  caccttcatt     540
ctcaacttgt  gagggatcta  ctagaagtca  catctggttt  gatttctgat  gacattatca     600
acatgagaaa  tgatctgtac  cagacgccct  tgcacttggc  agtgatcact  aagcaggaag     660
atgtggtgga  ggatttgctg  agggctgggg  ccgacctgag  ccttctggac  cgcttgggta     720
actctgtttt  gcacctagct  gccaaagaag  gacatgataa  agttctcagt  atcttactca     780
agcacaaaaa  ggcagcacta  cttcttgacc  accccaacgg  ggacggtctg  aatgccattc     840
atctagccat  gatgagcaat  agcctgccat  gtttgctgct  gctggtggcc  gctggggctg     900
acgtcaatgc  tcaggagcag  aagtccgggc  gcacagcact  gcacctggct  gtggagcacg     960
acaacatctc  attggcaggc  tgcctgctcc  tggagggtga  tgcccatgtg  gacagtacta    1020
cctacgatgg  aaccacaccc  ctgcatatag  cagctgggaa  agggtccacc  aggctggcag    1080
ctcttcttaa  agcagcagga  gcagatcccc  tggtgggaga  ctttgagccc  ttctatgacc    1140
tggatgactc  ttgggaaaat  gcaggaaaag  gattgaagga  gttggnctgg  aancacgcct    1200
tttaganatg  ggccnccaac  tggcaggnat  ttggcctatt                            1240
```

<210> 467
<211> 885
<212> DNA
<213> Homo Sapiens

<400> 467

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gtgccggagc  tggaggcgga  ggcatgtttg  gtagtggcgg  tggaggaggg  ggcactggaa      60
gtacaggtcc  agggtatagc  ttcccacact  atggatttcc  tacttatggt  gggattactt     120
tccatcctgg  aactactaaa  tctaatgctg  ggatgaagca  tggaaccatg  gacactgaat     180
ctaaaaagga  ccctgaaggt  tgtgacaaaa  gtgatgacaa  aaacactgta  aacctctttg     240
ggaaagttat  tgaaaccaca  gagcaagatc  aggagcccag  cgaggccacc  gttgggaatg     300
gtgaggtcac  tctaacgtat  gcaacaggaa  caaaagaaga  gagtgctgga  gttcaggata     360
acctctttct  agagaaggct  atgcagcttg  caaagaggca  tgccaatgcc  cttttcgact     420
acgcggtgac  aggagacgtg  aagatgctgc  tggccgtcca  gcgccatctc  actgctgtgc     480
aggatgagaa  tggggacagt  gtcttacact  tagcaatcat  ccaccttcat  tctcaacttg     540
tgagggatct  actagaagtc  acatctggtt  tgatttctga  tgacattatc  aacatgagaa     600
atgatctgta  ccagacgccc  ttgcacttgg  cagtgatcac  taagcaggaa  gatgtggtgg     660
aggatttgct  gagggctggg  gcccgacctg  agccttctgg  acccgcttgg  gtaactctgg     720
tttgcaccta  gcttgcccaa  agaaggacat  gataaagttc  tcaagtatct  tacttaagcn     780
caaaaanggc  agcactactt  tnttgaccac  ccccaacggg  ggacggtctt  gaatgccatt     840
catttaagcc  atgatgagcc  ataagcctgg  catggtttgc  tgctg                      885
```

<210> 468
<211> 748
<212> DNA
<213> Homo Sapiens

<400> 468

```
gcaaatcaga  gaaataacca  cattagaaaa  agcaatatgc  cttttttttt  aaaatggcac      60
atcaagtgac  tctcatttta  aaatatctct  tttcttaacc  cttaatttga  atgcaaaatg     120
atgctgtggt  cagaaggaat  gccaggtggc  gaccgtgata  cctttaatga  caataggaac     180
gtagcagagg  gacaacagca  atgacaacag  aaagcagctg  tgatccagca  gcagctggca     240
aagcttagta  agcaacctca  tccccagatg  catccgctca  gccagtgttg  tgattgctag     300
atactatctg  taagtgaacc  aaactaaaat  tcatttatga  accaagaaag  gaagccaagt     360
tgaaaaggtc  tcgagttaaa  tcgagaatga  ttcaggcggg  ccggctctct  gagcaccttt     420
```

```
ggatgcactt cagcttctgt cttgtggaaa cgcgtggaat tttagggctt tggtttacac      480
ggtgtgggaa attgtcagca ggctaaattt tgccttctag aggtccttcc tgcccataat      540
catggggcat tttgttgaga gttagcagtg aggcaccact ggtcagagac tcggtaaagc      600
tgagtttgcg gaaggatgtc tccacgccgc ttgtcgcaga cactgtcact ggcttcggag      660
ctcgnctatt tgctgccttg tggaggcagg cgaaanaagc agcgagtggg ccctgaaaag      720
gngggcnttc actgggctgg aaggcttg                                         748
```

        <210> 469
        <211> 770
        <212> DNA
        <213> Homo Sapiens

        <400> 469

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gcaaatcaga gaaataacca cattagaaaa agcaatatgc cttttttttt aaaatggcac       60
atcaagtgac tctcatttta aaatatctct tttcttaacc cttaatttga atgcaaaatg      120
atgctgtggt cagaaggaat gccaggtggc gaccgtgata cctttaatga aataggaac      180
gtagcagagg gacaacagca atgacaacag aaagcagctg tgatccagca gcagctggca      240
aagcttagta agcaacctca tccccagatg catccgctca gccagtgttg tgattgctag      300
atactatctg taagtgaacc aaactaaaat tcatttatga accaagaaag gaagccaagt      360
tgaaaaggtc tcgagttaaa tcgagaatga ttcaggcggg ccggctctct gagcaccttt      420
ggatgcactt cagcttctgt cttgtggaca acgcagtgga attttagggc tttggtttac      480
acggtgtggg aaattgtcag caggctaaat tttgccttct agaggtcctt cctgcccata      540
atcatggggc attttggtga gagntagcag tgaggcacca ctggtcagag acttcggtaa      600
agctgagttt gcgggaaagg atgtnttcca cgccgcttnt cgcanacact ggcactgnct      660
tgggagctcn gctattttgc ttgcccttgt ggangcaggc caaaanaagc caacgaatgg      720
ggccctgaaa aggngggcct tcanctgggc ttggaagctt gcctnggatc                 770
```

        <210> 470
        <211> 892
        <212> DNA
        <213> Homo Sapiens

        <400> 470

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agagtgctgg agttcaggat aacctctttc tagagaaggc tatgcagctt gcaaagaggc       60
atgccaatgc ccttttcgac tacgcggtga caggagacgt gaagatgctg ctggccgtcc      120
agcgccatct cactgctgtg caggatgaga atggggacag tgtcttacac ttagcaatca      180
tccaccttca ttctcaactt gtgagggatc tactagaagt cacatctggt ttgatttctg      240
atgacattat caacatgaga aatgatctgt accagacgcc cttgcacttg gcagtgatca      300
ctaagcagga agatgtggtg gaggatttgc tgagggctgg ggccgacctg agccttctgg      360
accgcttggg taactctgtt ttgcacctag ctgccaaaga aggacatgat aaagttctca      420
gtatcttact caagcacaaa aaggcagcac tacttcttga ccacccaac ggggacggtc      480
tgaatgccat tcatctagcc atgatgagca atagcctgcc atgtttgctg ctgctggtgg      540
ccgctggggc tgacgtcaat gctcaggagc agaagtccgg gcgcacagca ctgcacctgg      600
ctgtggagca cgacaacatc tcattggcag gctgcctgct cctggagggt gatgcccatg      660
tggacagtac tacctacgat ggaaccacac ccctgcatat agcagctggg aaagggtcca      720
ccaggctggc agctcttctt aaagcagcag gagcagatcc cctggtggga gactttgagc      780
ccttctatga cctggatgac tcttgggaaa atgcaggaaa aggattgaag gagttggnct      840
ggaancacgc cttttagana tgggccncca actggcaggn atttggccta tt              892
```

        <210> 471
        <211> 759
        <212> DNA
        <213> Homo Sapiens

        <400> 471

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gcaaatcaga gaaataacca cattagaaaa agcaatatgc cttttttttt aaaatggcac      60
atcaagtgac tctcatttta aaatatctct tttcttaacc cttaatttga atgcaaaatg     120
atgctgtggt cagaaggaat gccaggtggc gaccgtgata cctttaatga caataggaac     180
gtagcagagg dacaacagca atgacaacag aaagcagctg tgatccagca gcagctggca     240
aagcttagta agcaacctca tccccagatg catccgctca gccagtgttg tgattgctag     300
atactatctg taagtgaacc aaactaaaat tcatttatga accaagaaag gaagccaagt     360
tgaaaaggtc tcgagttaaa tcgagaatga ttcaggcggg ccggctctct gagcaccttt     420
ggatgcactt cagcttctgt cttgtggaca acgcagtgga atttaagggc tttggtttac     480
acggtgtggg aaattgtcag caggctaaat tttgccttct agaggtcctt cctgcccata     540
atcatggggc attttgttga gagttagcag tgaggcacca ctggtcagag actcggtaaa     600
gctgagtttg cggaaggatg tctccacgcc gctgtccgca gacactgtca ctgnctcgga     660
gctcgtctat ttgctgcctt gtggaggcag gcgananagg caacgagtgg gccctgaaaa     720
gnggtcttca ctgggctgga agcttgnctg gatcacttt                           759
```

```
        <210> 472
        <211> 852
        <212> DNA
        <213> Homo Sapiens

        <400> 472
gtggtagtgg tgccggagct ggaggcggag gcatgtttgg tagtggcggt ggaggagggg      60
gcactggaag tacaggtcca gggtatagct tcccacacta tggatttcct acttatggtg     120
ggattacttt ccatcctgga actactaaat ctaatgctgg gatgaagcat ggaaccatgg     180
acactgaatc taaaaaggac cctgaaggtt gtgacaaaag tgatgacaaa aacactgtaa     240
acctctttgg gaaagttatt gaaaccacag agcaagatca ggagcccagc gaggccaccg     300
ttgggaatgg tgaggtcact ctaacgtatg caacaggaac aaaagaagag agtgctggag     360
ttcaggataa cctctttcta gagaaggcta tgcagcttgc aaagaggcat gccaatgccc     420
ttttcgacta cgcggtgaca ggagacgtga agatgctgct ggccgtccag cgccatctca     480
ctgctgtgca ggatgagaat ggggacagtg tcttacactt agcaatcatc caccttcatt     540
ctcaacttgt gagggatcta ctagaagtca catctggttt gatttctgat gacattatca     600
acatgagaaa tgatctgtac cagacgccct ttgcacttgg cagtgatcac taagcaggaa     660
gatgtggtgg aggatttgct gaagggctgg ggccgacctt tgagcctttc tggacccgct     720
tgggtaactc tgttttgcac cctaacttgc caaagaaggg cattgataaa ggtcttcaag     780
tatcttactt cagcccaaaa anggcagcac tacttntttg accaccccaa cgggggacgg     840
gcttgaatgc ca                                                          852
```

```
        <210> 473
        <211> 804
        <212> DNA
        <213> Homo Sapiens

        <400> 473
gcaaatcaga gaaataacca cattagaaaa agcaatatgc cttttttttt aaaatggcac      60
atcaagtgac tctcatttta aaatatctct tttcttaacc cttaatttga atgcaaaatg     120
atgctgtggt cagaaggaat gccaggtggc gaccgtgata cctttaatga caataggaac     180
gtagcagagg dacaacagca atgacaacag aaagcagctg tgatccagca gcagctggca     240
aagcttagta agcaacctca tccccagatg catccgctca gccagtgttg tgattgctag     300
atactatctg taagtgaacc aaactaaaat tcatttatga accaagaaag gaagccaagt     360
tgaaaaggtc tcgagttaaa tcgagaatga ttcaggcggg ccggctctct gagcaccttt     420
ggatgcactt cagcttctgt cttgtggaca acgcagtgga atttaagggc tttggtttac     480
acggtgtggg aaattgtcag caggctaaat tttgccttct agaggtcctt ccttgcccat     540
aatcatgggg cattttgttg agagttagca gtgaggcacc acttggtcaa gagactcggt     600
naagctgagt tttgcggaag gatgtctcca cgcccgctgt cgcagacact gtcactgtct     660
tcggaactcg nctatttgct gncttgtgga agcaggcnaa nanaagcanc gaantggggc     720
cctgaaaagn gggtcttcac ttggnctgga aggcttgccc tgggatcnct ttnaatgggc     780
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```
ttcggnggaa ccccattttg tctt                                        804

        <210> 474
        <211> 819
        <212> DNA
        <213> Homo Sapiens

        <400> 474
ggctgggctg cgcttgggtc cgtcgctgct tcggtgtccc tgtcgggctt cccagcagcg     60
gcctagcggg aaaagtaaaa gatgtctgaa tatattcggg taaccgaaga tgagaacgat    120
gagcccattg aaataccatc ggaagacgat gggacggtgc tgctctccac ggttacagcc    180
cagtttccag gggcgtgtgg gcttcgctac aggaatccag tgtctcagtg tatgagaggt    240
gtccggctgg tagaaggaat tctgcatgcc ccagatgctg gctggggaaa tctggtgtat    300
gttgtcaact atccaaaaga taacaaaaga aaaatggatg agacagatgc ttcatcagca    360
gtgaaagtga aaagagcagt ccagaaaaca tccgatttaa tagtgttggg tctcccatgg    420
aaaacaaccg aacaggacct gaaagagtat tttagtacct ttggagaagt tcttatggtg    480
caggtcaaga aagatcttaa gactggtcat tcaaaggggt ttggctttgt tcgttttacg    540
gaatatgaaa cacaagtgaa agtaatgtca cagcgacata tgatagatgg acgatggtgt    600
gactgcaaac ttcctaattc taagcaaagc caagatgagc ctttgagaag cagaaaagtg    660
tttgtggggc gctgtcagag gacatgactg aggatgaagc tgcgggagtt cttcttttca    720
gtancgggga tgtgatggat ggtcttcatn cccaagccat tcagggcctt tggctttggt    780
catttgcaga tgaatcagat gcgccagtct ctttgtgga                          819

        <210> 475
        <211> 721
        <212> DNA
        <213> Homo Sapiens

        <400> 475
atttaaatca gttttatttta agaatttcca acaatgacaa ctcttataaa aagcatccaa     60
gcacaggaca cagaactgca gcaaacagca ttcttatggg tagctaacag acattagaac    120
ttccacccct ctttgagaca cctgagctca ctggtgaact ctgcttcaag tcctcctgca    180
aagcacacca caagctcagt ccatgttctc agcccatcag cttcagttca cattgccaca    240
cttacatatc agtaacagaa gagaacacac accatacagc attcacagca gttgacaaag    300
gggtagggg agtacaagta tcatttcact taacacattc atctaatgtg ggttatctaa    360
gaacaaaaac tcacttaaaa gtcttccaac agatgtggat gtcctttgaa tgcaaaaaac    420
attcgtacat tatttgctat cattgctctc tgcacactct ctcaccaaag ccacaggatt    480
gagagacaca tctcgccaag ttaaaaaata tccattatgc accaccaagt ctctgcacgc    540
gctctctcct tttctcgctc atactagcct ttcatgcctc ggcaccacca tcaatcccac    600
acaaggtttc aaaagttcag acagccttct ggttccatat cacaggcctt gcgttcatag    660
cggtgatacg acttcctgga aattaagagt ancggataaa aatgggacac ccaccggtaa    720
a                                                                    721

        <210> 476
        <211> 442
        <212> DNA
        <213> Homo Sapiens

        <400> 476
attnaaatca gtttnattna ananttttcca ncanngncan ctntnataaa aggcntccan     60
ncncaggacn canancngca gcaancagcn ttntnanggg tagntancan acnttaaanc    120
ttccaccntt ntttganacn ccnganctna nngggganct nngnttcang ncctccngca    180
angcacacca cangctcagn ccatgttntn agcccatcag nttcagttna catngccaca    240
nttncntatc agtaccagaa gagaccncnc nccntncagc nttcncagca gtngncaaag    300
gggtaggggn agtccangta tcatttnant taccacattc atctaagggg ggttatctaa    360
```

```
naccaaaanc tcanttaaan gtnttccanc anangnggan gnccttngaa ngcaaaaanc   420
nttcgnccat nattggctat ca                                           442
```

```
        <210> 477
        <211> 878
        <212> DNA
        <213> Homo Sapiens

        <400> 477
ggtggctggg ctgcgcttgg gtccgtcgct gcttcggtgt ccctgtcggg cttcccagca    60
gcggcctagc gggaaaagta aaagatgtct gaatatattc gggtaaccga agatgagaac   120
gatgagccca ttgaaatacc atcggaagac gatgggacgg tgctgctctc cacggttaca   180
gcccagtttc caggggcgtg tgggcttcgc tacaggaatc cagtgtctca gtgtatgaga   240
ggtgtccggc tggtagaagg aattctgcat gccccagatg ctggctgggg aaatctggtg   300
tatgttgtca actatccaaa agataacaaa agaaaaatgg atgagacaga tgcttcatca   360
gcagtgaaag tgaaaagagc agtccagaaa acatccgatt aatagtgtt gggtctccca    420
tggaaaacaa ccgaacagga cctgaaagag tattttagta cctttggaga agttcttatg   480
gtgcaggtca agaaagatct taagactggt cattcaaagg ggtttggctt tgttcgtttt   540
acggaatatg aaacacaagt gaaagtaatg tcacagcgac atatgataga tggacgatgg   600
tgtgactgca aacttcctaa ttctaagcaa agccaagatg agcctttgag aagcagaaaa   660
gtgtttgtgg ggcgctgtca gaggacatga ctgaggatga agctgcggga gttcttcttt   720
agtaccgggg atgtgatgga tgtctttatt ccccaagccc nttcaggggc ttttggcttt   780
ggtacatttg ccagatgatc agaatgccca gtctcttttg tggaaaagga ctttgatcat   840
ttaaagggaa tcagcggttc attatattcc aatggccc                          878
```

```
        <210> 478
        <211> 768
        <212> DNA
        <213> Homo Sapiens

        <400> 478
ggtgtcaaaa aaaaatttta tttatctggt tcaaaaaatt ttttagaatg aatgcattta    60
gattgaccaa atagattttt aaaaacaaat ctttgccaaa tagtttaagt acttttaaac   120
ttcaaaatct tcttagggta aaataaatac ccgtatctat gcagtaccat aaacatgtta   180
ataaaaggcc actcaacatt gaaagccttc tatgaccagt aactgaaatt tacacaagtg   240
taaagaaggg attaaaccat gccgttgaca agttaactta cccctgggct ccttgaaggc   300
ttgtcagttt agtctttgga ggtccccgag taccatttta agtgttacca tgttactgct   360
gctgagtaat agtgcaagtg cattttaggt gcggtcaccc agacttattc aaaactagat   420
ttcaaaagaa aaaaaaaat tttcactttg gccaatgcaa gaacaaatac caattaagtc   480
tgggtatcag gtgtcaatgc atgacaggtg atgaatccat ttgacttgag acaactttc    540
aaataagttt atttgaagca aaataaacta ctgccaagaa actttatgaa agttccatct   600
caaaagggtc aaaaaagggg aattaactgc tatgaattct ttgcattcag ggcgtcaaaa   660
gacgccggcc tgnggatgcc gtgatgacca attcttgaat gagaaagcat gtagaccgna   720
tttcctatgg cagaaatatt tacnggccta ctttcaatgg aagngctt                768
```

```
        <210> 479
        <211> 815
        <212> DNA
        <213> Homo Sapiens

        <400> 479
gcgaagcggt ggctgggctg cgcttgggtc cgtcgctgct tcggtgtccc tgtcgggctt    60
cccagcagcg gcctagcggg aaaagtaaaa gatgtctgaa tatattcggg taaccgaaga   120
tgagaacgat gagcccattg aaataccatc ggaagacgat gggacggtgc tgctctccac   180
ggttacagcc cagtttccag gggcgtgtgg gcttcgctac aggaatccag tgtctcagtg   240
```

```
tatgagaggt gtccggctgg tagaaggaat tctgcatgcc ccagatgctg gctggggaaa     300
tctggtgtat gttgtcaact atccaaaaga taacaaaaga aaaatggatg agacagatgc     360
ttcatcagca gtgaaagtga aaagagcagt ccagaaaaca tccgatttaa tagtgttggg     420
tctcccatgg aaaacaaccg aacaggacct gaaagagtat tttagtacct ttggagaagt     480
tcttatggtg caggtcaaga aagatcttaa gactggtcat tcaaaggggt ttggctttgt     540
tcgttttacg gaatatgaaa cacaagtgaa agtaatgtca cagcgacata tgatagatgg     600
acgatggtgt gactgcaaac ttcctaattc taagcaaagc ccagatgaac ctttgagaag     660
cagaaaagtg tttgtggggg cgctgtacag angacatgac tgangataan cttcnggagt     720
tcttttttta ataccgggat gtgatggatg cttcatttcc caacccattc agggcctttg     780
nctttggtac catttgcaga tgatcanatt gccca                               815
```

        <210> 480
        <211> 812
        <212> DNA
        <213> Homo Sapiens

        <400> 480

```
gtggtgtcaa aaaaaatttt atttatctgg ttcaaaaaat tttttagaat gaatgcattt     60
agattgacca aatagatttt taaaaacaaa tctttgccaa atagtttaag tacttttaaa     120
cttcaaaatc ttcttagggt aaaataaata cccgtatcta tgcagtacca taaacatgtt     180
aataaaaggc cactcaacat tgaaagcctt ctatgaccag taactgaaat ttacacaagt     240
gtaaagaagg gattaaacca tgccgttgac aagttaactt acccctgggc tccttgaagg     300
cttgtcagtt tagtctttgg aggtccccga gtaccatttt aagtgttacc atgttactgc     360
tgctgagtaa tagtgcaagt gcattttagg tgcggtcacc cagacttatt caaaactaga     420
tttcaaaaga aaaaaaaaaa ttttcacttt ggccaatgca agaacaaata ccaattaagt     480
ctgggtatca ggtgtcaatg catgacaggt gatgaatcca tttgacttga dacaacttt      540
caaataagtt tatttgaagc aaaataaact actgccaaga aactttatga aaagttccat     600
cttcaaaagg ggtcaaaaaa ggggaattaa ctgctatgaa ttctttgcat tcanggctgc     660
aaaacaaaga ccccatatta tttaaaatcc agtttattta agaatttncc accntggaca     720
acttcttatt aaaaaggcnt tccaggccca nggaccacag aaactgnang ccaaacangc     780
atttcttatg gggtagctta ccaggacctt tt                                   812
```

        <210> 481
        <211> 1127
        <212> DNA
        <213> Homo Sapiens

        <400> 481

```
gaggacagca atttaatggc aaaggaaaga caagacaggc tgcgaaacac gatgctgctg     60
ccaaagcgtt gaggatcctg cagaatgagc ccctgccaga gaggctggag gtgaatggaa     120
gagaatccga agaagaaaat ctcaataaat ctgaaataag tcaagtgttt gagattgcac     180
ttaaacggaa cttgcctgtg aatttcgagg tggcccggga gagtggccca ccccacatga     240
agaactttgt gaccaaggtt tcggttgggg agtttgtggg ggaaggtgaa gggaaaagca     300
agaagatttc aaagaaaaat gccgccatag ctgttcttga ggagctgaag aagttaccgc     360
ccctgcctgc agttgaacga gtaaagccta gaatcaaaaa gaaaacaaaa cccatagtca     420
agccacagac aagcccagaa tatggccagg ggatcaatcc gattagccga ctggcccaga     480
tccagcaggc aaaaaaggag aaggagccag agtacacgct cctcacagag cgaggcctcc     540
cgcgccgcag ggagtttgtg atgcaggtga aggttggaaa ccacactgca gaaggaacgg     600
gcaccaacaa gaaggtggcc aagcgcaatg cagccgagaa catgctggag atccttggtt     660
tcaaagtccc gcaggcgcag cccaccaaac ccgcactcaa gtcagaggag aagacaccca     720
taaagaaacc aggggatgga agaaaagtaa ccttttttga acctggctct ggggatgaaa     780
atgggactag taataaagag gatgagttca ggatgcctta tctaagtcat cagcagctgc     840
ctgctggaat tcttcccatg gtgcccgagg tcgcccaggc tgtaggagtt agtcaaggac     900
atcacaccaa agattttacc agggcagctc cgaatcctgc caaggccacg gtaactgcca     960
tgatagcccg agagttgttg tatggggca cctcgcccac agcccgagac cattttaaag     1020
```

```
aataacatct cttcaggcca cgtaccccat ggacctctca cgagaccctn tgagcaactg   1080
gactatcttt ncagagtcca gggattncag gttgaatacc aagactt                 1127
```

```
<210> 482
<211> 773
<212> DNA
<213> Homo Sapiens
```

```
<400> 482
taccgccct gcctgcagtt gaacgagtaa agcctagaat caaaaagaaa acaaaaccca   60
tagtcaagcc acagacaagc ccagaatatg gccaggggat caatccgatt agccgactgg   120
cccagatcca gcaggcaaaa aaggagaagg agccagagta cacgctcctc acagagcgag   180
gcctcccgcg ccgcagggag tttgtgatgc aggtgaaggt tggaaaccac actgcagaag   240
gaacgggcac caacaagaag gtggccaagc gcaatgcagc cgagaacatg ctggagatcc   300
ttggtttcaa agtcccgcag gcgcagccca ccaaacccgc actcaagtca gaggagaaga   360
cacccataaa gaaaccaggg gatggaagaa aagtaacctt ttttgaacct ggctctgggg   420
atgaaaatgg gactagtaat aaagaggatg agttcaggat gccttatcta agtcatcagc   480
agctgcctgc tggaattctt cccatggtgc ccgaggtcgc ccaggctgta ggagttagtc   540
aaggacatca caccaaagat tttaccaggg cagctccgaa tcctgccaag gccacggtaa   600
ctgccatgat agcccgagag ttgttgtatg ggggcacctc gcccacagcc cgagaccatt   660
ttaaagaata acatctcttc aggccacgta ccccatggac ctctcacgag accctntgag   720
caactggact atctttncag agtccaggga ttncaggttg aataccaaga ctt           773
```

```
<210> 483
<211> 794
<212> DNA
<213> Homo Sapiens
```

```
<400> 483
cattagtagc tgttnattga tcaanggttn gatataaagt tatttcanat cttcanactt   60
ttgcccagat ggaatcacaa gcattacaaa gttttttctt aaaaataaaa aaaggatagg   120
ggcaagttgg gaggggacca acctagcagt agnggcattt ganaataaat tancaaaaaa   180
atttagtatt accattnatt gatgacaaac acttaagttt tacttacatt ccatggggag   240
aaaaattcca gcgtaaacaa tgaatggaag cagtacttaa ctcgcagggc taccaggctt   300
tccatacgga ccacacgcag agcctcagng cacacacttc tgtgtncagt ancacaacat   360
caaaagcaac acagntgtat acagaaacgt aggtcattct tttcagccct aaggagatg    420
taattaacag tatcgagcac tntggaaaat cactctgcag gtttatatgg actacatgga   480
gatcatatcc tgtagtgtag tgaaagctaa gtcctcaaga gccatatgta tagatncaca   540
atgttttta ataatcttta aaacagagat caaagttcat ttaagnccetg tttgcattac    600
caaaaataaa aatgaaataa aaatggaacc aaatgaacat ctaangttta aaattcctaa   660
atnggccaat ttatncaact ggnggggaga cttattcaag ggttttgaaa gtccaggaac   720
tggtttcaag ctggaaccca ggggggcccc acaatttggc attcnctgga aactggccct   780
ggggttaagc caaa                                                      794
```

```
<210> 484
<211> 788
<212> DNA
<213> Homo Sapiens
```

```
<400> 484
caagaccaga aggaaatgca cagttggata agatggggtt cacaattatc agaaaatgca   60
tcagtgccgt tgaaacacga ggtataaatg accaaggatt gtacagagtt gtggggggtga   120
gttcaaaggt ccagagactt ctgagtatgt tgatggatgt aaaaacatgc aatgaggtgg   180
acctggagaa ttctgcagat tgggaagtga agacaataac aagtgccttg aaacagtatt   240
tgaggagtct tccagagcct ctcatgacct atgagttaca tggagatttc attgttccag   300
```

```
ccaaaagcgg cagcccagaa tctcgtgtta atgcgatcca tttcttggta cacaaactgc      360
cagagaagaa taaagagatg ttggatattt tggtgaaaca cttaacaaat gtttcaaatc      420
actccaagca gaacctgatg actgtggcaa acttaggagt ggtgtttgga ccaactctga      480
tgaggccaca ggaagaaact gtcgctgcct catggacttg aagtttcaga atattgttgt      540
ggaaatctta attgaaaacc atgaaaagat ttttcggacg ccgnccgata ctacattccc      600
tgagcccacc tgcctgtcag catcaccccc aaatgcgcca ccaangcagt cnaagagaca      660
aggncagaga accaagaagg cccgtgggcc gtctacaatc tttggctgga gctggaaaga      720
tggtgacaat ccttaccctt tccanggagg acaccccttta ccacagtctg gactcacttt      780
tcttcccg                                                               788
```

    <210> 485
    <211> 430
    <212> DNA
    <213> Homo Sapiens

    <400> 485

```
agtaaattac agtttatttc atttacagag accttgaggc aaaaaggtgg tgtttggaaa       60
acagcacacg ggtgaggagc accggagaag cctgttacaa atacgccagt gcacgctgcc      120
agtgcagtga gtgtggggtc ctgcaggtgg ccgtctagga agggcaggct tgagacgcgc      180
gtctctgctt ccctntgact tgagaccatc tcccttgnac caacagcagc ttntccaagc      240
taggctgcca cagccaagca cacactctgc aaacctatca ctgcgagtng tacagttccc      300
tttanaatcg nagcagcang tgctcaggga ggagagggag ccnnngtggc tctggtggcg      360
tgactgccag tgnaggcgga cacangtggc ataaggctgc ccgtcccctc tcattcttat      420
atgctgngat                                                             430
```

    <210> 486
    <211> 831
    <212> DNA
    <213> Homo Sapiens

    <400> 486

```
aaagtgtagt gccatcgaca caggctgtca cgttttcccc ttctttttcac aatcaagcaa      60
ttatggtgac aaaaccagtg caggaatata aaaaggaata cacagtgcag caggccttgt      120
tttgtacttc tggaattgtt acttctatac cggtgccctt ggcaggaagt gcccttctcc      180
catatcatat ttcatctact gcatgtcagg ccaaggctca tctgtcatct gatgatagta      240
attcaaatgg tgattctgcc caagtgcata ttgccacaaa aaacagagaa gaaaaagcag      300
cttgtctcag aaatatttgt ttaccttcag aacacaatcc aggtaatcag aatgatttta      360
aaccaactaa tgacgatatt gaaatgcaga gttcctcaaa attaccaaat gatcctgcaa      420
ttattagcaa cttttctgca gcagtggtgc atacgatagt aaatgaaact ttagagtcaa      480
tgacatcatt ggaagttaca aaaatggttg atgaacgtac agattattta actaaatctt      540
taaaggagaa aaccccctcca ttttcccact gtgatcaggc agtgctgcaa tgcagtgaag      600
ctagtagcaa taaggacatg tttgctgacc ggttatctaa atctattatt aaacattcca      660
tagataagag caaatcagtg atcccaaata tagataaaaa tgcagtatac aaggaaagct      720
tgcctgtttc tggagaagaa tcacagttga cacccagaaa agtcttncca aatttnctga      780
ctcttcagaa tcagtttaac ttactggttc acttttagct gcaaaggaat g               831
```

    <210> 487
    <211> 728
    <212> DNA
    <213> Homo Sapiens

    <400> 487

```
gacggagtct gtctctgtcg cccaggatgg agtacagtgg cacaatctca gctcactgca       60
atctctgcct cccaggttca agcaattctc ctgccttagc ctcccaagta gctgggatta      120
caggtgcctg ccaccacgcc tggctaattt ttgtattttt ggtagagacg gggtttcacc      180
```

```
atgttgccca ggctggtctt gaactcctga cctcaagtga tccacccca cccccattgg       240
cttcccagag ttctgggatt acaggcgtga atcaccgcgc ccagcccaaa tcgccgaagt       300
ctttatctcc taccttgatc tctgtagcag aaaagaacag tatagatatc aattgtcatc       360
aacagatgca acatatcttg taaatcaata tattttcaag tgaggtctct gaatcacctg       420
cactgaaatc atctgtgatg cttatcaagc atgcagattc tcaggaccct tcactgactt       480
cataaatctt catctctgga ggtgagaccc tggacactgt atatgcaacg agcacaccac       540
caatcctgga tgagccccgc ttttctctg tgccagaacc ttaatgccac gcagcattac        600
attaagtcac attacaactt tggtcaatgg aaacacaggg tctttttctg acaaaatgcc       660
atcaagccag gtttggctcc ccacttaagt tcaaatnttt aatcattaat tttctgagcc       720
taaaatgc                                                               728
```

```
<210> 488
<211> 788
<212> DNA
<213> Homo Sapiens

<400> 488
gtgggccctg tcctttctcc ccagctcctg ccccggagcc gggccctggc gaggcaggaa        60
tggccccgag gcctccgacc gccgcgcccc aggaatcagt gacattcaaa gatgtgtctg       120
tggacttcac ccaggaagaa tggtaccatg tcgaccctgc tcagaggagc ttatacaggg       180
atgtgatgct ggagaactat agccacctgg tttctcttgg atatcaagtt tccaagccag       240
aggtgatctt caaattggag caaggagaag agccatggat atcagaggga gaaatccaac       300
gacctttcta tccagactgg aagaccaggc ctgaagtcaa atcatcacat ttgcagcagg       360
atgtatcaga agtatcccac tgcacacatg atctcttaca tgctacatta gaagactcct       420
gggatgttag cagccagtta gacgggcaac aggaaaactg gaagagacat ctgggatcag       480
aggcatccac ccagaagaaa ataattacac cacaagaaaa ttttgagcaa aataaatttg       540
gtgaaaattc tagattgaac accaatttgg ttacacaact gaacattcct gcaagaataa       600
ggcctagtga atgtgagacc cttggaagca atttgggaca taatgcagac ttacttaatg       660
agaataatat tcttgcaaaa aagaaaccct tttagtgnga taatgtagaa aagnctttan       720
tcatagatca tcgnttacta aaccttgaga aaacccctta anggaaaagg gagctttcct       780
aatgggac                                                               788
```

```
<210> 489
<211> 875
<212> DNA
<213> Homo Sapiens

<400> 489
aaagagatgg ggtttcacca tgttgtccag gctggtcttg aactctgggt tcaagcagtc        60
tatctgcctt agccacccaa agtgctggga ttacaggtgt gagacaccat acctagccaa       120
gttaattttt ttaatggtga aatcttttct ttgcacataa aatgagccag tgcatgttgc       180
ttctctgagt acaagacaaa atttatggca atgggcaatt agacttatac ttttctgcaa       240
gaaaattaac gggaaaattc tcctcttagt tttctgttgt tttcccattg atctgatact       300
gtaggcttaa gaaagtgctt tttcatgggc atgccataaa aagtacaata aggggactta       360
atagttctgt gaaactggca tatgttagct gaaagtataa ttgtaactgg gaaaagggga       420
aaaaagtcac tagtagttca accatctaca gtttctgtta aattgtggtt tgtaagcctc       480
caagaagttg ctttaaatag tttgtgataa atttgcatac attttgctcc cacttatact       540
tttaagaatt ctcaaagtgt ccaacccata ggtgcccatt aaatgtttgt gtatctgatc       600
atcttaaaat ttattttaaa gccctctgag tcccaaaaat aacctttca ctggcaaggc        660
catggggccc caaatccagg aaaccctggc attttaacc caacttttac ccttataggc        720
tggaatcata ctgngggaaa cccacttcac atcttttggc tttcagtctt caatctgncc       780
cnaatggaaa atgggttggg cctagttgga actaaattct tttgaatggg ggactttcct       840
ggaaattggg aactnggttt ccatgggga aagtt                                  875
```

```
<210> 490
```

```
      <211> 844
      <212> DNA
      <213> Homo Sapiens

      <400> 490
aagtgtttga gattgcactt aaacggaact tgcctgtgaa tttcgaggtg gcccgggaga      60
gtggcccacc ccacatgaag aactttgtga ccaaggtttc ggttggggag tttgtggggg     120
aaggtgaagg gaaaagcaag aagatttcaa agaaaaatgc cgccatagct gttcttgagg     180
agctgaagaa gttaccgccc ctgcctgcag ttgaacgagt aaagcctaga atcaaaaaga     240
aaacaaaacc catagtcaag ccacagacaa gcccagaata tggccagggg atcaatccga     300
ttagccgact ggcccagatc cagcaggcaa aaaaggagaa ggagccagag tacacgctcc     360
tcacagagcg aggcctcccg cgccgcaggg agtttgtgat gcaggtgaag gttggaaacc     420
acactgcaga aggaacgggc accaacaaga aggtggccaa gcgcaatgca gccgagaaca     480
tgctggagat ccttggtttc aaagtcccgc aggcgcagcc caccaaaccc gcactcaagt     540
cagaggagaa gacacccata aagaaaccag gggatggaag-aaaagtaacc tttttttgaac     600
ctgctcttgg ggatgaaaat gggactagta ataaagagga tgagttcagg atgccttatc     660
taagtcatca gcagctgcct gctggaattc tttccatggt gcccgangtc gcccaagctg     720
taggaagtta gtcaaggaca tnacacccaa gattttacca ggcagcttcg aatcttgcca     780
nggcncngta ctgccatgat agcccanagt tgttgtattg gggcancttt gccccaggcc     840
ggga                                                                  844

      <210> 491
      <211> 825
      <212> DNA
      <213> Homo Sapiens

      <400> 491
cattagtagc tgtttattga tcaatggttt gatataaagt tatttcanat cttcagactt      60
ttgcccagat ggaatcacaa gcattacaaa gttttttctt aaaaataaaa aaaggatagg     120
ggcaagttgg gaggggacca acctagcagt agtggcattt gagaataaat taacaaaaaa     180
atttagtatt accatttatt gatgacaaac acttaagttt tacttacatt ccatggggag     240
aaaaattcca gcgtaaacaa tgaatggaag cagtacttaa ctcgcagggc taccaggctt     300
tccatacgga ccacacgcag agcctcagtg cacacacttc tgtgtacagt aacacaacat     360
caaaagcaac acagctgtat acagaaacgt aggtcattct tttcagccct aatggagatg     420
taattaacag tatcgagcac tctggaaaat cactctgcag gtttatatgg actacatgga     480
gatcatatcc tgtagtgtag tgaaagctaa gtcctcaaga gccatatgta tagatacaca     540
atgttttta ataatcttta aaacagagat caaagttcat ttaaagtcct gtttgcatta     600
acaaaaataa aaatganaat aaaaatggac caaatgatca tctaaagttt aaaattccta     660
aatggtccaa tttatacaac tgggggagac ttattcaagg tttttgaaag tccaggactg     720
gtttcagctg aaccagangg cccccaattt gcatcactgg aactgnccctg ggtttagcca     780
aggaaattaa aaaagnctta accccccttcc cctgggattt gaacc                   825

      <210> 492
      <211> 946
      <212> DNA
      <213> Homo Sapiens

      <400> 492
gaggacagca atttaatggc aaaggaaaga caagacaggc tgcgaaacac gatgctgctg      60
ccaaagcgtt gaggatcctg cagaatgagc ccctgccaga gaggctggag gtgaatggaa     120
gagaatccga agaagaaaat ctcaataaat ctgaaataag tcaagtgttt gagattgcac     180
ttaaacggaa cttgcctgtg aatttcgagg tggcccggga gagtggccca ccccacatga     240
agaactttgt gaccaaggtt tcggttgggg agtttgtggg ggaaggtgaa gggaaaagca     300
agaagatttc aaagaaaaat gccgccatag ctgttcttga ggagctgaag aagttaccgc     360
ccctgcctgc agttgaacga gtaaagccta gaatcaaaaa gaaaacaaaa cccatagtca     420
```

-257-

```
agccacagac  aagcccagaa  tatggccagg  ggatcaatcc  gattagccga  ctggcccaga     480
tccagcaggc  aaaaaaggag  aaggagccag  agtacacgct  cctcacagag  cgaggcctnc     540
cgcgccgcag  ggagtttgtg  atgcaggtga  aggttggaaa  ccacacttgc  agaaggaacg     600
ggcaccaaca  agaaggtggc  caagcgcaat  gcacccgaga  acatgctgga  gatccttggt     660
ttcaaaagtc  ccgcangcgc  agcccaccaa  acccggactn  aagtcagang  agaagacccc     720
attaaggaaa  ccangggatg  gaagaaaagt  ancnttttga  anctggctnt  tgggattaaa     780
atgggcttgt  antaaagagg  atgagttcag  gatgncntat  ctaagtcatn  aacacttgct     840
gctggaaatc  tttccatggg  ggccgaggtc  ncccagcttt  taggagttat  canggccntt     900
ccncccaaga  attttcccgg  gcagtttcca  atctgccaag  gccccg                     946
```

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        <210> 493
        <211> 804
        <212> DNA
        <213> Homo Sapiens

        <400> 493
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ggtctttatg  tgcttaaata  acgctgaatt  ataattagcc  acacaaataa  tgagagtttt      60
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ttcctgattt  tgcatgttct  cattcccaaa  gtagtctacc  ttagtttaca  ctcaaaggta     180
gcacttgttg  aaactacatg  acagaaacag  gctgcaaagg  tggacaaggg  gaagcatgtc     240
cctcttgtct  tgataaatca  gtgccacaca  cagaacccac  attttctgag  acattatctt     300
cattatagag  ccgtttgatt  ccatcataga  agtcatccac  ttccatttcc  tctactttgc     360
gtttagtaga  ggtctgcttg  cacccactgg  cagctgggag  atgatggtaa  aaggctgctg     420
tacctctgac  tggcacttct  ggcttgctgt  tgtccttgga  gaagtctggg  cctgggacag     480
aggagggatg  taatctgaac  actcctttgt  cacaggtcac  cagggtgtgc  ttgaggggac     540
ggtagacata  aacggaattc  agaggcaggg  aagactgcag  agtanaaagg  tgatgtgccc     600
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gtaagagaaa  gcccaatccn  ggaatggagt  tcntccattt  tcagactaac  cctgggcncn     720
aagcaaggca  tgggatcccc  tggaattgcc  anaaanttgg  gttgcagggn  ccatacncgg     780
nggnaagtaa  ttngctttgg  gtaa                                              804
```

```
        <210> 494
        <211> 856
        <212> DNA
        <213> Homo Sapiens

        <400> 494
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gaaaggttgg  aaagaataaa  tagggccagg  gaacaaggat  ggagaaatgt  gctaagtgct      60
ggtggaagtg  gtgaagtaaa  ggctcctttt  ctgggcagtg  gagggactat  agctccatca     120
tctttttctt  ctcgaggaca  gtatgaacat  taccatgcca  tttttgacca  aatgcagcaa     180
caaagagcag  aagataatga  agctaaatgg  aaaagagaaa  tatatggtcg  aggtcttcca     240
gaaaggcaaa  aagggcagct  agctgtagaa  agagctaaac  aagtagaaga  gttcctgcag     300
cgaaaacggg  aagctatgca  gaataaagct  cgagccgaag  gacatatggg  aatcctgcaa     360
aacctggcag  ctatgtatgg  aggcaggccc  agctcttcaa  gaggagggaa  gccaagaaac     420
aaagaggaag  aggtttatct  ggcaagactg  aggcaaataa  gactacagaa  tttcaatgag     480
cgccaacaga  ttaaagccaa  acttcgtggt  gaaaagaaag  aagctaatca  ttctgaagga     540
caagaaggaa  gtgaagaggc  tgacatgagg  cgcaaaaaaa  atcgaatcac  tgaaggccca     600
tgcaaatgca  cgtgctgctg  tctaaaagaa  cactagaacg  aaagagaaag  gaggcttatg     660
agagagaaaa  aaaagtgtgg  gaagagcatt  tggtggctaa  aggagttaag  agtctgatgg     720
ttcttcccct  ttgggaccag  catgaaacaa  ggtggctttt  ccttcaaagc  caccggatga     780
aaanctggta  nttctggnac  ttcactttn  aagaanttgg  ccgtggnngt  agtttaactg     840
gatacccggg  aacttc                                                        856
```

```
        <210> 495
        <211> 757
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<212> DNA
<213> Homo Sapiens

<400> 495
agataataaa aatttaatag caatatcata aaataaacac acatattaaa aaatcaagta   60
tttagtttcg gatattagaa ataatataca taataaattc aacatactga tagtgctgca 120
agataagatt ttattttttca aattacatat tatgccaacc agcctgcttt ggactcagag 180
gttcaaaaac tttgctttta ttacgaagaa catntggact gtagacacct ntaacgaaac 240
caggttatac ttggcatatt gngattgaag ctgtgtgatc aacatcttaa tgacctaact 300
aaatcctntc ataacagaaa gaagttcaac aggcaaacat ttccctccct aggatcctag 360
ttaccaaaac tgtcacagng ncaaaataaa aataattatt tcctcctttt taacatctta 420
ttgnccttga agcttatgta tggaggaagt taaaaaccaa aagagcaact ttaagctata 480
tgctaagtca gngttaaatc cacagactaa tttttcgata tagnattcct ggntctggnc 540
cttaaagaga aataaaggca ttaaaccact ttttttatatg tcaaggaaat ataatttngc 600
tattctttca taatcaaatc tttcaatgga tttctaagac tggnttctac agcctgngng 660
ctagttccag gggacacact gattgtaaaa nggacttggn ggaaatntaa aactttaagg 720
gctaaaaaat ttcatctttc aaaatgntnt agatgtt   757

<210> 496
<211> 1759
<212> DNA
<213> Homo Sapiens

<400> 496
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ccacaccagg ttatccagaa tctgaatcca tcatgatggc ccccatttgt ctagtggaaa 120
accaggaaga gcagctgaca gtgaattcaa aggcattaga gattcttgac aagatttctc 180
agcccgtggt ggtggtggcc attgtagggc tataccgcac aggaaaatcc tatctcatga 240
atcgtcttgc aggaaagcgc aatggcttcc ctctgggctc cacggtgcag tctgaaacta 300
agggcatctg gatgtggtgt gtgcccacc tctctaagcc aaaccacacc ctggtccttc 360
tggacaccga gggcctgggc gatgtagaaa agagtaaccc taagaatgac tcgtggatct 420
ttgccctggc tgtgcttcta agcagcagct ttgtctataa cagcgtgagc accatcaacc 480
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ttatttggac tgttcgggat tttaccctgg agctaaagtt agatggaaac cccatcacag 660
aagatgagta cctggagaat gccttgaagc tgattccagg ·caagaatccc aaaattcaaa 720
attcaaacat gcctagagag· tgtatcaggc atttcttccg aaaacggaag tgctttgtct 780
ttgaccggcc tacaaatgac aagcaatatt taaatcatat ggacgaagtg ccagaagaaa 840
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caaagaccaa gaccctgaga gagggaatca ttgtcactgg aaagcggctg gggactctgg 960
tggtgactta tgtagatgcc atcaacagtg gagcagtacc ttgtctggag aatgcagtga 1020
cagcactggc ccagcttgag aacccagcgg ctgtgcagag ggcagccgac cactatagcc 1080
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accatgaatt ccagaagaag cttgtggaca ccatagagaa aaagaaggga gactttgtgc 1260
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acctgacaga aagcattttg agaggaattt tctctgttcc tggaggacac aatctctact 1380
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aagcagctga gaaggaacag gagctgctaa gagaaaaaca gaaggagcag cagcaaatga 1620
tggaggctca agagagaagc tttcaggaat acatggncca aatggagaag aagttggagg 1680
angaaaggga aaaccntntc agagagcctt gaaaaggttg ctaaaacaca agcttgaagg 1740
tncagaagaa aatgcttaa   1759

```
<210> 497
<211> 842
<212> DNA
<213> Homo Sapiens

<400> 497
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tccttatgca atcagacaac ttctgttctt atatcttcac ccatgcaaag accaagaccc   120
tgagagaggg aatcattgtc actggaaagc ggctggggac tctggtggtg acttatgtag   180
atgccatcaa cagtggagca gtaccttgtc tggagaatgc agtgacagca ctggcccagc   240
ttgagaaccc agcggctgtg cagagggcag ccgaccacta tagccagcag atggcccagc   300
aactgaggct ccccacagac acgctccagg agctgctgga cgtgcatgca gcctgtgaga   360
gggaagccat tgcagtcttc atggagcact ccttcaagga tgaaaaccat gaattccaga   420
agaagcttgt ggacaccata gagaaaaaga agggagactt tgtgctgcag aatgaagagg   480
catctgccaa atattgccag gctgagctta agcggctttc agagcacctg acagaaagca   540
tttttgagagg aattttctct gttcctggag dacacaatct ctacttagaa gaaaagaaac   600
aggttgagtg ggactataag ctagtgccca gaaaaggagt taaggcaaac gaggtcctcc   660
agaacttcct gcagtcacan gtggttgtag aggaatccat cctgcagtca gacaaagccc   720
tcactgctgg agagaaggcc atacaaccgg aaccgggcca tgaaggaagc acttgagaag   780
gaacaggagc tgcttagaga aaaaccgaag gagccagcag ccaaatggat ggaggctcaa   840
ga                                                                   842


<210> 498
<211> 707
<212> DNA
<213> Homo Sapiens

<400> 498
gagcaataaa gctttttaat cacctggggtg caggctggct gagtccgaaa agacagtcag    60
tgaagggaga tagggttggg accatttttac aggatttggg ttggtaaagg aaaattacag   120
tcaaaggggg ttgttctctg gcgggcagag gtgggtgtca caagttgctt agtgggggag   180
ctttttgagcc aggatgagcc aggagaagga atttcacaag gtaatgtcat cagttaaggc   240
aggaacaggc cattttcact tcttttgtga ttcttcactt gcttcaggcc atctggacgt   300
atgtacatgc aggtcacagg ggatatgatg gcttagcttg ggctcagagg cctgacattt   360
agtatattta ctggaatatt caggctctta aatacgtgag ccaagatatt ttgtccctac   420
tccaagtagc ttggaagccc caggtagagt gacaatcatt atgttgctag ccatgtcaag   480
gatctttaag agccttaact gttcattttt agtgctttca atttttcttt tcagttgatt   540
aatctcttta tttaactgct cagatttctt ttgaaattct tccttaagca tttcttcttg   600
naccttcagc ttggggttta acagcctttc atgctctctg aaaagggttt nccttttcctn   660
cttcaacttc ttctccattt gggccatgna ttcctggaag cttctct                  707


<210> 499
<211> 772
<212> DNA
<213> Homo Sapiens

<400> 499
gtggagcagt accttgtctg gagaatgcag tgacagcact ggcccagctt gagaacccag    60
cggctgtgca gagggcagcc gaccactata gccagcagat ggcccagcaa ctgaggctcc   120
ccacagacac gctccaggag ctgctggacg tgcatgcagc ctgtgagagg gaagccattg   180
cagtcttcat ggagcactcc ttcaaggatg aaaaccatga attccagaag aagcttgtgg   240
acaccataga gaaaaagaag ggagactttg tgctgcagaa tgaagaggca tctgccaaat   300
attgccaggc tgagcttaag cggctttcag agcacctgac agaaagcatt ttgagaggaa   360
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actataagct agtgcccaga aaaggagtta aggcaaacga ggtcctccag aacttcctgc   480
```

```
agtcacaggt ggttgtagag gaatccatcc tgcagtcaga caaagccctc actgctggag      540
agaaggccat agcagcggag cgggccatga aggaagcagc tgagaaggaa caggagctgc      600
taagagaaaa acagaaggag cagcagcaaa tgatggaggc tcaagagaga agctttcagg      660
aatacatggn ccaaatggag aagaagttgg aggangaaag ggaaaaccnt ntcagagagc      720
cttgaaaagg ttgctaaaac acaagcttga aggtncagaa gaaaatgctt aa      772
```

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        <210> 500
        <211> 787
        <212> DNA
        <213> Homo Sapiens

        <400> 500
ggctgttttt agttttttct tgatttcaaa tcttcttttc aacacctccc tcttctctat      60
gcgattgaac agttcttgct ctctctcttt ctctgtcatc tgttccagac gggccctgtc      120
ttcctcatct cccatgaggt cttctccata gccatcatgg aactcttcat cttctgagga      180
agagtctgaa tctgaactgg aagaggagct gttgctgtca gagtctgaca cttcaccttc      240
ctcaggggct gagctctcag ctgaactgtc tttgtctgaa ctgcctgagg aggcagtttt      300
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tgagacggag tctcgctccg tcgcccaggc tggagtgcag cggcgcgatc tcgactcact      480
gcaagctccg cctcccgggc ccacgccatt ctcccgcccc agcctcccgt gtagctggga      540
ctacaggcgc gtgccaccac gcccggccaa tttttgcatt tttagcanag acggggtttc      600
accgggttag ccaggaaggg ctcgatcccc tgacctcgng atccacccgt cttggcctcc      660
caaagtgctg ggacccacag gcaatgagtt ggattttaa ctactgggtt taaggccagg      720
caggccccag gcctgggttt tgggcctggc nctggcctgn ccggccttgg gtttaccttc      780
ctgggggg      787
```

```
        <210> 501
        <211> 886
        <212> DNA
        <213> Homo Sapiens

        <400> 501
agttntnacc gctcgnctcg cgcgcctgca ggtcgacact agtggatcca aagcgggatt      60
ttaccctgga gctaaagtta gatggaaacc ccatcacaga agatgagtac ctggagaatg      120
ccttgaagct gattccaggc aagaatccca aaattcaaaa ttcaaacatg cctagagagt      180
gtatcaggca tttcttccga aaacggaagt gctttgtctt tgaccggcct acaaatgaca      240
agcaatattt aaatcatatg gacgaagtgc cagaagaaaa tctggaaagg catttcctta      300
tgcaatcaga caacttctgt tcttatatct tcacccatgc aaagaccaag accctgagag      360
agggaatcat tgtcactgga aagcggctgg ggactctggt ggtgacttat gtagatgcca      420
tcaacagtgg agcagtacct tgtctggaga atgcagtgac agcactggcc cagcttgaga      480
acccagcggc tgtgcagagg gcagccgacc actatagcca gcagatggcc cagcaactga      540
ggctccccac agacacgctc caggagctgc tggacgtgca tgcagcctgt gagagggaag      600
ccattgcagt cttcatggag cactccttca aggatgaaaa ccatgaattc cagaagaagc      660
ttgtggacac catagagaaa aagaagggag actttgtgct gcagaatgaa gaggcatctg      720
ccaaatattg ccaggctgac ttaagcggct ttcagagcac ctgacagaaa gcattttgag      780
aggaattttc tctggtcctg gaggacacaa tctctactta gaagaaagga aacaggntga      840
gtggggacta ttagctagtg nccagaaaag gagttaaggc aaacga      886
```

```
        <210> 502
        <211> 626
        <212> DNA
        <213> Homo Sapiens

        <400> 502
```

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gggagcaata aagctttta atcacctggg ngcaggctgg ctgagtccna aaagacagtc     60
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ngtcaaaggg ggttgttctn tggcgggcaa aggggggngt cacaagttgc ttannggggg    180
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gcaggaacag gccattttca cttnttttgg gantcttcac ttgcttcagg ccatntggaa    300
nattcaggct nttaaanacn ngagccnana nattttggcc ctactccaag tagcttggaa    360
ncccaggta aagggacnat cattatgntg ctagccntgt caaggatntt taaaagcctt     420
aactggncat ttttanggct ttcaatttt tntttagtn gattaancnc tttatttaac     480
ngctcaaatt tcttttgaaa ntnttcctta agcntttctt cttgnccttn ancttgggnt    540
ttancagcct ttcatgcnct ttgaaaaggn tttcccttc ctcctccaac ttcntctcca     600
tttggggcca tgntattncc tgggaa                                         626
```

```
    <210> 503
    <211> 884
    <212> DNA
    <213> Homo Sapiens

    <400> 503
cgaggatcca ggcgcaggag gacagagcaa tgggtgagag aactcttcac gctgcagtgc     60
ccacaccagg ttatccagaa tctgaatcca tcatgatggc ccccatttgt ctagtggaaa    120
accaggaaga gcagctgaca gtgaattcaa aggcattaga gattcttgac aagatttctc    180
agcccgtggt ggtggtggcc attgtagggc tataccgcac aggaaaatcc tatctcatga    240
atcgtcttgc aggaaagcgc aatggcttcc ctctgggctc cacggtgcag tctgaaacta    300
agggcatctg gatgtggtgt gtgccccacc tctctaagcc aaaccacacc ctggtccttc    360
tggacaccga gggcctgggc gatgtagaaa agagtaaccc taagaatgac tcgtggatct    420
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accaggccct ggagcagctg cactatgtga ctgagctagc agagctaatc agggcaaaat    540
cctgccccag acctgatgaa gctgaggact ccagcgagtt tgcgagtttc tttccagact    600
ttatttggac tgttcgggat tttaccctgg agctaaagtt agatggaaac cccatcacag    660
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aattcaaaca tgcctagaga gtgnattaag gcantttctt ccgaaaaccg gaagtgcttt    780
tgcctttgac cgggctacaa atggacaagc caatatttaa aatcattntg gacnaantgc    840
cngaagaaaa tctggaaagg catttcctta tgccatcaga caac                    884
```

```
    <210> 504
    <211> 612
    <212> DNA
    <213> Homo Sapiens

    <400> 504
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caagctccgc ctcctgggtt cacgccattc tcctgcctca gcctcccgtg tagctgggac    120
tacaggcgcg tgccaccatg cccggctaat ttttgtattt ttagtagaga cggggtttca    180
ccgtgttagc caggatggtc tcgatctcct gacctcgtga tccacccgtc tcggcctccc    240
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cccaggcctg gttttgggcc tggcgctggg ctgcctgtct ttggttttac ttccttggtg    360
nttttctta aaacaggtac tgagtatcaa acaatataaa acaatataag aaggtctctc     420
tcttccctca attctagctg caagttttga gcactagaca gcagaaataa attcctaaaa    480
tgttgagttg agcaaatagt tcaatgctat ccctatcaaa ctaccaatga cattntttac     540
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gcnaanccta aa                                                        612
```

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    <211> 2215
    <212> DNA
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<213> Homo Sapiens

<400> 505

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cgctcaccct ggctgcagtg ggtgctgcct ccaagaccct gagccacccg cagcagatgg     180
cactcctgga ccagactaaa acattggcag agtctgccct gcagttgcta tacactgcca     240
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tgcagatgat gaccgaggcc gtagaggacc tgacaacaac cctcaacgag gcagccagtg     360
ctgctggggt cgtgggtggc atggtggact ccatcacccca ggccatcaac cagctagatg     420
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tggcttgcgg ccaccaacaa nttgtgtgaa ggcagccaat gcaactgtcc aagggcatgc    2160
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```

<210> 506
<211> 742
<212> DNA
<213> Homo Sapiens
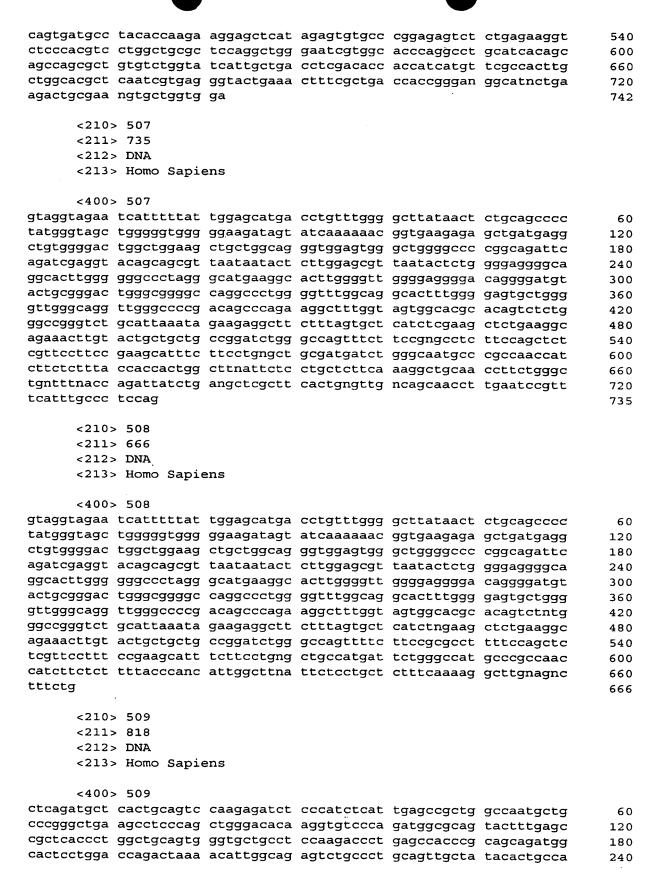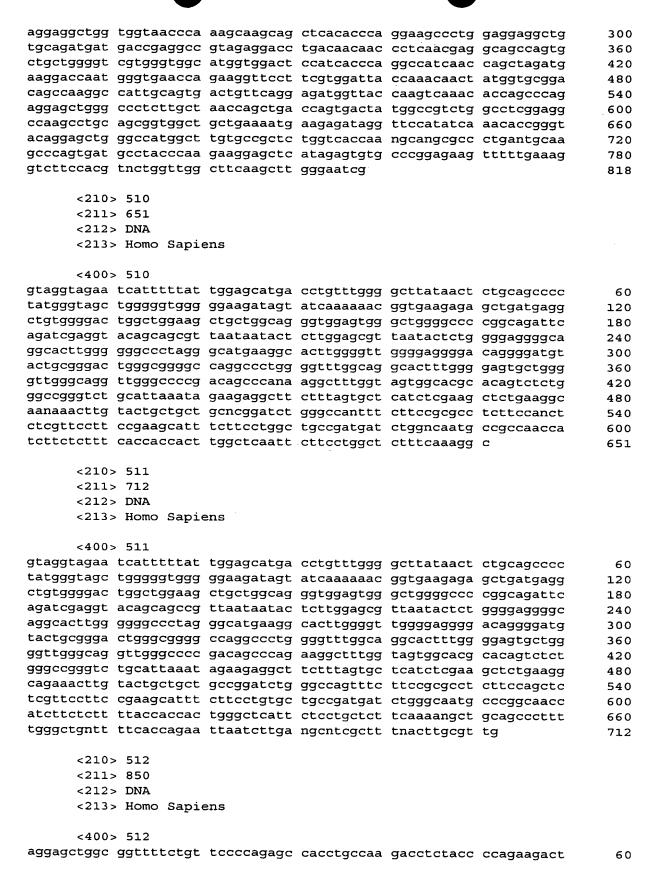
<400> 506
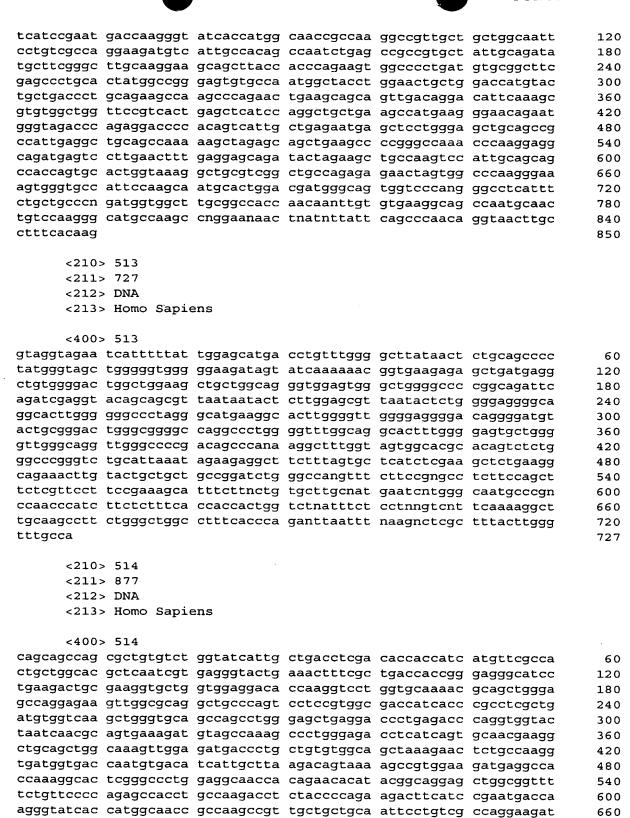
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tggggtcgtg ggtggcatgg tggactccat cacccaggcc atcaaccagc tagatgaagg     180
accaatgggt gaaccagaag gttccttcgt ggattaccaa acaactatgg tgcggacagc     240
caaggccatt gcagtgaccg ttcaggagat ggttaccaag tcaaacacca gcccagagga     300
gctgggccct cttgctaacc agctgaccag tgactatggc cgtctggcct cggaggccaa     360
gcctgcagcg gtggctgctg aaaatgaaga gataggttcc catatcaaac accgggtaca     420
ggagctgggc catggctgtg ccgctctggt caccaaggca ggcgccctgc agtgcagccc     480
```

●   ●

```
cagtgatgcc tacaccaaga aggagctcat agagtgtgcc cggagagtct ctgagaaggt    540
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agccagcgct gtgtctggta tcattgctga cctcgacacc accatcatgt tcgccacttg    660
ctggcacgct caatcgtgag ggtactgaaa ctttcgctga ccaccgggan ggcatnctga    720
agactgcgaa ngtgctggtg ga                                             742
```

```
<210> 507
<211> 735
<212> DNA
<213> Homo Sapiens
```

```
<400> 507
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ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc    180
agatcgaggt acagcagcgt taataatact cttggagcgt taatactctg gggaggggca    240
ggcacttggg gggccctagg gcatgaaggc acttggggtt ggggagggga caggggatgt    300
actgcgggac tgggcggggc caggccctgg ggtttggcag gcactttggg gagtgctggg    360
gttgggcagg ttgggccccg acagcccaga aggctttggt agtggcacgc acagtctctg    420
ggccgggtct gcattaaata gaagaggctt ctttagtgct catctcgaag ctctgaaggc    480
agaaacttgt actgctgctg ccggatctgg gccagtttct tccgngcctc ttccagctct    540
cgttccttcc gaagcatttc ttcctgngct gcgatgatct gggcaatgcc cgccaaccat    600
cttctcttta ccaccactgg cttnattctc ctgctcttca aaggctgcaa ccttctgggc    660
tgntttnacc agattatctg angctcgctt cactgngttg ncagcaacct tgaatccgtt    720
tcatttgccc tccag                                                    735
```

```
<210> 508
<211> 666
<212> DNA
<213> Homo Sapiens
```

```
<400> 508
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ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc    180
agatcgaggt acagcagcgt taataatact cttggagcgt taatactctg gggaggggca    240
ggcacttggg gggccctagg gcatgaaggc acttggggtt ggggagggga caggggatgt    300
actgcgggac tgggcggggc caggccctgg ggtttggcag gcactttggg gagtgctggg    360
gttgggcagg ttgggccccg acagcccaga aggctttggt agtggcacgc acagtctntg    420
ggccgggtct gcattaaata gaagaggctt ctttagtgct catctngaag ctctgaaggc    480
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tcgttccttt ccgaagcatt tcttcctgng ctgccatgat tctgggccat gcccgccaac    600
catcttctct tttacccanc attggcttna ttctcctgct ctttcaaaag gcttgnagnc    660
tttctg                                                              666
```

```
<210> 509
<211> 818
<212> DNA
<213> Homo Sapiens
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<400> 509
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cccgggctga agcctcccag ctgggacaca aggtgtccca gatggcgcag tactttgagc    120
cgctcaccct ggctgcagtg ggtgctgcct ccaagaccct gagccacccg cagcagatgg    180
cactcctgga ccagactaaa acattggcag agtctgccct gcagttgcta tacactgcca    240
```

```
aggaggctgg tggtaaccca aagcaagcag ctcacaccca ggaagccctg gaggaggctg    300
tgcagatgat gaccgaggcc gtagaggacc tgacaacaac cctcaacgag gcagccagtg    360
ctgctggggt cgtgggtggc atggtggact ccatcaccca ggccatcaac cagctagatg    420
aaggaccaat gggtgaacca gaaggttcct tcgtggatta ccaaacaact atggtgcgga    480
cagccaaggc cattgcagtg actgttcagg agatggttac caagtcaaac accagcccag    540
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ccaagcctgc agcggtggct gctgaaaatg aagagatagg ttccatatca aacaccgggt    660
acaggagctg ggccatggct tgtgccgctc tggtcaccaa ngcangcgcc ctgantgcaa    720
gcccagtgat gcctacccaa gaaggagctc atagagtgtg cccggagaag tttttgaaag    780
gtcttccacg tnctggttgg cttcaagctt gggaatcg                            818
```

```
<210> 510
<211> 651
<212> DNA
<213> Homo Sapiens

<400> 510
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tatgggtagc tggggggtggg ggaagatagt atcaaaaaac ggtgaagaga gctgatgagg   120
ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc   180
agatcgaggt acagcagcgt taataatact cttggagcgt taatactctg gggagggggca   240
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gttgggcagg ttgggccccg acagcccana aggctttggt agtggcacgc acagtctctg   420
ggccgggtct gcattaaata gaagaggctt ctttagtgct catctcgaag ctctgaaggc   480
aanaaacttg tactgctgct gcncggatct gggccanttt cttccgcgcc tcttccanct   540
ctcgttcctt ccgaagcatt tcttcctggc tgccgatgat ctggncaatg ccgccaacca   600
tcttctcttt caccaccact tggctcaatt cttcctggct ctttcaaagg c              651
```

```
<210> 511
<211> 712
<212> DNA
<213> Homo Sapiens

<400> 511
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tatgggtagc tggggggtggg ggaagatagt atcaaaaaac ggtgaagaga gctgatgagg   120
ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc   180
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tactgcggga ctgggcgggg ccaggccctg gggtttggca ggcactttgg ggagtgctgg   360
ggttgggcag gttgggcccc gacagcccag aaggctttgg tagtggcacg cacagtctct   420
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cagaaacttg tactgctgct gccggatctg ggccagtttc ttccgcgcct cttccagctc   540
tcgttccttc cgaagcattt cttcctgtgc tgccgatgat ctgggcaatg cccggcaacc   600
atcttctctt ttaccaccac tgggctcatt ctcctgctct tcaaaangct gcagcccttt   660
tgggctgntt ttcaccagaa ttaatcttga ngcntcgctt tnacttgcgt tg            712
```

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<210> 512
<211> 850
<212> DNA
<213> Homo Sapiens

<400> 512
aggagctggc ggttttctgt tccccagagc cacctgccaa gacctctacc ccagaagact    60
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●   ●

```
tcatccgaat gaccaagggt atcaccatgg caaccgccaa ggccgttgct gctggcaatt    120
cctgtcgcca ggaagatgtc attgccacag ccaatctgag ccgccgtgct attgcagata    180
tgcttcgggc ttgcaaggaa gcagcttacc acccagaagt ggcccctgat gtgcggcttc    240
gagccctgca ctatggccgg gagtgtgcca atggctacct ggaactgctg gaccatgtac    300
tgctgaccct gcagaagcca agcccagaac tgaagcagca gttgacagga cattcaaagc    360
gtgtggctgg ttccgtcact gagctcatcc aggctgctga agccatgaag ggaacagaat    420
gggtagaccc agaggacccc acagtcattg ctgagaatga gctcctggga gctgcagccg    480
ccattgaggc tgcagccaaa aagctagagc agctgaagcc ccgggccaaa cccaaggagg    540
cagatgagtc cttgaacttt gaggagcaga tactagaagc tgccaagtcc attgcagcag    600
ccaccagtgc actggtaaag gctgcgtcgg ctgccagaga gaactagtgg cccaagggaa    660
agtgggtgcc attccaagca atgcactgga cgatgggcag tggtcccang gcctcattt    720
ctgctgcccn gatggtggct tgcggccacc aacaanttgt gtgaaggcag ccaatgcaac    780
tgtccaaggg catgccaagc cnggaanaac tnatnttatt cagcccaaca ggtaacttgc    840
ctttcacaag                                                           850
```

<210> 513
<211> 727
<212> DNA
<213> Homo Sapiens

<400> 513
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tatgggtagc tggggggtggg ggaagatagt atcaaaaaac ggtgaagaga gctgatgagg    120
ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc    180
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tctcgttcct tccgaaagca tttcttnctg tgcttgcnat gaatcntggg caatgcccgn    600
ccaacccatc ttctctttca ccaccactgg tctnatttct cctnngtcnt tcaaaaggct    660
tgcaagcctt ctgggctggc ctttcacccca ganttaattt naagnctcgc tttacttggg    720
tttgcca                                                              727
```

<210> 514
<211> 877
<212> DNA
<213> Homo Sapiens

<400> 514
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tgaagactgc gaaggtgctg gtggaggaca ccaaggtcct ggtgcaaaac gcagctggga    180
gccaggagaa gttggcgcag gctgcccagt cctccgtggc gaccatcacc cgcctcgctg    240
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gtcattgcca cagccaatct gagcccgccg tgctattgca gatatgcttc ggctttgcaa    720
ggaagcagct taccacccag aagtgggccc tgatgtgcgg nttcaancct gnactatggc    780
ccggagtgtg ccaatggcta cctgggaact ggttggacca ttgtacttgg tgacccttgc    840
```

```
aaaagcccag ccccagaact tgaagccagc agtttgc                          877
```

```
        <210> 515
        <211> 685
        <212> DNA
        <213> Homo Sapiens

        <400> 515
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tatgggtagc tggggtgggg ggaagatagt atcaaaaaac ggtgaagaga gctgatgagg   120
ctgtggggac tggctggaag ctgctggcag ggtggagtgg gctggggccc cggcagattc   180
agatcgaggt acagcagcgt taataatact cttggagcgt taatactctg gggaggggca   240
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tntcgttcct ttccgaancc atttctttcc tgngcttgcc natgaatctt gggcaaatgc   600
ccgccaaccc atcttctctt ttcaccccac cacctggnct cattctcctg ctcttcaaaa   660
ngcttgcaac cctttcttgg ngctn                                        685
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```
        <210> 516
        <211> 790
        <212> DNA
        <213> Homo Sapiens

        <400> 516
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ttaatattca ggagccagaa gaggaaacag ctaatcagga atacaaagtc tccagctgtg   120
aacagagact catcagtgaa atagagtaca ggctagaaag gtctcctgtg gatgaatcag   180
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ctggaaatcc aaagccaaag atctattggt ttaaagatgg gaagcagatc tctccaaaga   360
gtgatcacta caccattcaa agagatctcg atgggacctg ctccctccat accacagcct   420
ccaccctaga tgatgatggg aattatacaa ttatggctgc aaaccctcag ggccgcatca   480
gttgtactgg acggctaatg gtacaggctg tcaaccaaag aggtcgaagt ccccggtctc   540
cctcaggcca tcctcatgtc agaaggcctc gttctagatc aagggacagt ggagacgaaa   600
atgaaccaat tcaggagcga ttcttcagac ctcacttctt gcaggctcct ggagatctga   660
ctgttcaaga aggaaaactc tgcagaatgg actgcaaagt cagtgggtta ccaaccccca   720
gatctaagct ggcaactaga tggaaagccc gtacgccctg acagtgctca caagaaagcc   780
tggtgcctga                                                        790
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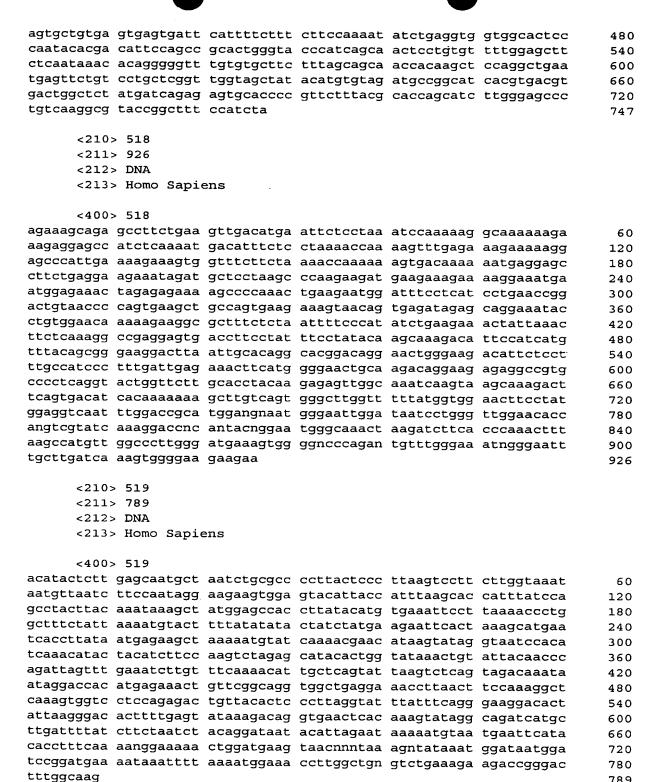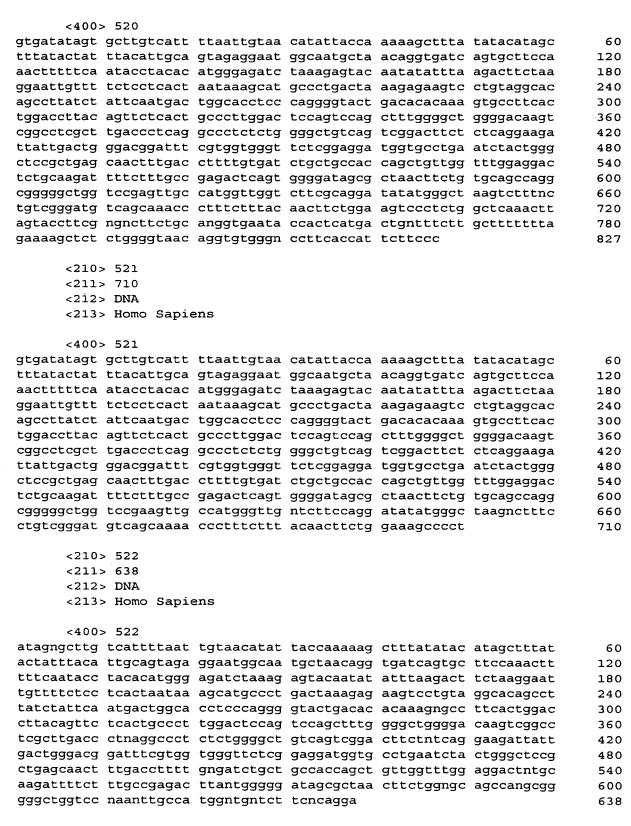
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        <210> 517
        <211> 747
        <212> DNA
        <213> Homo Sapiens

        <400> 517
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caatggctgt ttcagtgttt cagctttaac aagaatgctg gattacaggt cctcactttc   120
taccaaggca gtattcagtg tcaggtgaga tgggttggcc tcaggttgga acgctgcttt   180
gatgtctagt ccctggtccg aaagtgctgc atagcgactg gctgagggcc gtactttttt   240
tggcttggtg ctctgtgact gctgatgcca ctgggtgtaa acgtccagcc tggcagtaca   300
ggacacaatc cctgcttcat tcttggctga cacagtatac cacccagcat cttctttttgt   360
ggctccctga atgagcaggc agatgtagcc gtggttgtcc tggtgcatgc tcactcggtc   420
```

```
agtgctgtga gtgagtgatt cattttcttt cttccaaaat atctgaggtg gtggcactcc    480
caatacacga cattccagcc gcactgggta cccatcagca actcctgtgt tttggagctt    540
ctcaataaac acagggggtt tgtgtgcttc tttagcagca accacaagct ccaggctgaa    600
tgagttctgt cctgctcggt tggtagctat acatgtgtag atgccggcat cacgtgacgt    660
gactggctct atgatcagag agtgcacccc gttctttacg caccagcatc ttgggagccc    720
tgtcaaggcg taccggcttt ccatcta                                        747
```

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      <210> 518
      <211> 926
      <212> DNA
      <213> Homo Sapiens

      <400> 518
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agcccattga aaagaaagtg gtttcttcta aaaccaaaaa agtgacaaaa aatgaggagc    180
cttctgagga agaaatagat gctcctaagc ccaagaagat gaagaaagaa aaggaaatga    240
atggagaaac tagagagaaa agccccaaac tgaagaatgg atttcctcat cctgaaccgg    300
actgtaaccc cagtgaagct gccagtgaag aaagtaacag tgagatagag caggaaatac    360
ctgtggaaca aaaagaaggc gctttctcta attttcccat atctgaagaa actattaaac    420
ttctcaaagg ccgaggagtg accttcctat ttcctataca agcaaagaca ttccatcatg    480
tttacagcgg gaaggactta attgcacagg cacggacagg aactgggaag acattctcct    540
ttgccatccc tttgattgag aaacttcatg gggaactgca agacaggaag agaggccgtg    600
cccctcaggt actggttctt gcacctacaa gagagttggc aaatcaagta agcaaagact    660
tcagtgacat cacaaaaaaa gcttgtcagt gggcttggtt tttatggtgg aacttcctat    720
ggaggtcaat ttggaccgca tggangnaat gggaattgga taatcctggg ttggaacacc    780
angtcgtatc aaaggaccnc antacnggaa tgggcaaact aagatcttca cccaaacttt    840
aagccatgtt ggcccttggg atgaaagtgg ggncccagan tgtttgggaa atngggaatt    900
tgcttgatca aagtggggaa gaagaa                                        926
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      <210> 519
      <211> 789
      <212> DNA
      <213> Homo Sapiens

      <400> 519
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aatgttaatc ttccaatagg aagaagtgga gtacattacc atttaagcac catttatcca    120
gcctacttac aaataaagct atggagccac cttatacatg tgaaattcct taaaaccctg    180
gctttctatt aaaatgtact tttatatata ctatctatga agaattcact aaagcatgaa    240
tcaccttata atgagaagct aaaaatgtat caaaacgaac ataagtatag gtaatccaca    300
tcaaacatac tacatcttcc aagtctagag catacactgg tataaactgt attacaaccc    360
agattagttt gaaatcttgt ttcaaaacat tgctcagtat taagtctcag tagacaaata    420
ataggaccac atgagaaact gttcggcagg tggctgagga aaccttaact tccaaaggct    480
caaagtggtc ctccagagac tgttacactc ccttaggtat ttatttcagg gaaggacact    540
attaagggac acttttgagt ataaagacag gtgaactcac aaagtatagg cagatcatgc    600
ttgattttat cttctaatct acaggataat acattagaat aaaaatgtaa tgaattcata    660
cacctttcaa aanggaaaaa ctggatgaag taacnnntaa agntataaat ggataatgga    720
tccggatgaa aataaatttt aaaatggaaa ccttggctgn gtctgaaaga agaccgggac    780
tttggcaag                                                           789
```

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      <210> 520
      <211> 827
      <212> DNA
      <213> Homo Sapiens
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<400> 520

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tttatactat ttacattgca gtagaggaat ggcaatgcta acaggtgatc agtgcttcca   120
aacttttttca atacctacac atgggagatc taaagagtac aatatattta agacttctaa   180
ggaattgttt tctcctcact aataaagcat gccctgacta aagagaagtc ctgtaggcac   240
agccttatct attcaatgac tggcacctcc caggggtact gacacacaaa gtgccttcac   300
tggaccttac agttctcact gcccttggac tccagtccag ctttggggct ggggacaagt   360
cggcctcgct tgaccctcag ccctctctg gggctgtcag tcggacttct ctcaggaaga    420
ttattgactg ggacggattt cgtggtgggt tctcggagga tggtgcctga atctactggg    480
ctccgctgag caactttgac cttttgtgat ctgctgccac cagctgttgg tttggaggac    540
tctgcaagat tttctttgcc gagactcagt ggggatagcg ctaacttctg tgcagccagg    600
cgggggctgg tccgagttgc catggttggt cttcgcagga tatatgggct aagtctttnc   660
tgtcgggatg tcagcaaacc ctttctttac aacttctgga agtccctctg gctcaaactt   720
agtaccttcg ngncttctgc anggtgaata ccactcatga ctgntttctt gctttttta    780
gaaaagctct ctggggtaac aggtgtgggn ccttcaccat tcttccc                 827
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<210> 521
<211> 710
<212> DNA
<213> Homo Sapiens

<400> 521

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tttatactat ttacattgca gtagaggaat ggcaatgcta acaggtgatc agtgcttcca   120
aacttttttca atacctacac atgggagatc taaagagtac aatatattta agacttctaa   180
ggaattgttt tctcctcact aataaagcat gccctgacta aagagaagtc ctgtaggcac   240
agccttatct attcaatgac tggcacctcc caggggtact gacacacaaa gtgccttcac   300
tggaccttac agttctcact gcccttggac tccagtccag ctttggggct ggggacaagt   360
cggcctcgct tgaccctcag ccctctctg gggctgtcag tcggacttct ctcaggaaga    420
ttattgactg ggacggattt cgtggtgggt tctcggagga tggtgcctga atctactggg    480
ctccgctgag caactttgac cttttgtgat ctgctgccac cagctgttgg tttggaggac    540
tctgcaagat tttctttgcc gagactcagt ggggatagcg ctaacttctg tgcagccagg    600
cgggggctgg tccgaagttg ccatgggttg ntcttccagg atatatgggc taagnctttc   660
ctgtcgggat gtcagcaaaa ccctttcttt acaacttctg gaaagcccct               710
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<210> 522
<211> 638
<212> DNA
<213> Homo Sapiens

<400> 522

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atagngcttg tcattttaat tgtaacatat taccaaaaag ctttatatac atagctttat    60
actatttaca ttgcagtaga ggaatggcaa tgctaacagg tgatcagtgc ttccaaactt   120
tttcaatacc tacacatggg agatctaaag agtacaatat atttaagact tctaaggaat   180
tgttttctcc tcactaataa agcatgccct gactaaagag aagtcctgta ggcacagcct   240
tatctattca atgactggca cctcccaggg gtactgacac acaaagngcc ttcactggac   300
cttacagttc tcactgccct tggactccag tccagctttg gggctgggga caagtcggcc   360
tcgcttgacc ctnaggccct ctctggggct gtcagtcgga cttctntcag gaagattatt   420
gactgggacg gatttcgtgg tgggttctcg gaggatggtg cctgaatcta ctgggctccg   480
ctgagcaact ttgacccttt gngatctgct gccaccagct gttggtttgg aggactntgc   540
aagatttct ttgccgagac ttantgggggg atagcgctaa cttctggngc agccangcgg    600
gggctggtcc naanttgcca tggntgntct tcncagga                            638
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<210> 523
<211> 833

<212> DNA
<213> Homo Sapiens

<400> 523

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cgacacttag accgagtgga ctccatcctg ctcacccaca ttggggatga caatttgcct    60
ggaataaaca gcatgttaca gcggaaaatt gcagagctcg aggaagaaca gtcccagggc   120
tccaccacaa atagtgactg gatgaaaaac ctcatctccc ctgacttagg agttgtattt   180
ctcaatgtac ctgaaaatct caaaaatcca gagccaaaca tcaagatgaa gagaagcata   240
gaagaagcct gcttcactct ccagtaccta aacaaattgt ccatgaaacc agaacctctg   300
tttagaagtg taggcaatac tattgatcct gtcattcttt tccaaaaaat gggagtaggt   360
aaacttgaga tgtatgtgct taatccagtc aagagcagca aggaaatgca gtattttatg   420
cagcagtgga ctggtaccaa caaagacaag gctgaattca ttctgcctaa tggtcaagaa   480
gtagatctcc cgatttccta cttaacttca gtctcatctt tgattgtgtg gcatccagca   540
aaccctgcgg agaaaatcat ccgagtcctg tttcctggga acagcaccca gtacaacatc   600
ctggaagggt tggaaaagct caaacatcta gactttctga agcagccact ggccacccaa   660
aaggatctca ctggccaggt gcccactcct gtggtgaaac aaacaaaact gaacagaggg   720
cttgatagcc gagaaagtct gaagcccagc cgcaaaanca ctttctagca aaatccggcg   780
ccaaggagtc aaaagaagaa acccctgagg tcacaaaagg tggaatcacg tgg          833
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<210> 524
<211> 766
<212> DNA
<213> Homo Sapiens

<400> 524

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tttcacctct tccttttttg gttttttcctc cttcttgata ggtgttttgt cctccttttt   180
agccacttct ttctttggct tttctttctc ctctttcttg tcttcaggct ttaccttTgt   240
ttcctttttc accgtcttct ccttggcagc tttgggtttg acatctgtgg cttgcttctc   300
agccacctcg gctttcactg gagatggctc ttctttgctg ggaacctcct tttcagtcac   360
tgaaggtttg gtctctgttt ttattggctt gtcttttttc accattacct tttctttgct   420
ttcaactttg ggtggctttt ccacgtgatt cacttttgtg acctcagggg tttcttcttt   480
tgactccttg cgcacggatt gctaggaag tggtttttgcg gctggcttca gactttctcg   540
gctatcagcc ctctgtttca gttttgtttg tttcaccaca ggagtgggca cctggccagt   600
gaganccttt tgggtggcca gtggctggtt cagaaagtct aaanggtttg aggcttTtnc   660
aacctttcag gaatggtgga ccggggtgct ggtcccagga aacaggactc ggatggattt   720
ttctccccaa gggtttgctg gaagcccca caaatcaaag gaagga                  766
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<210> 525
<211> 847
<212> DNA
<213> Homo Sapiens
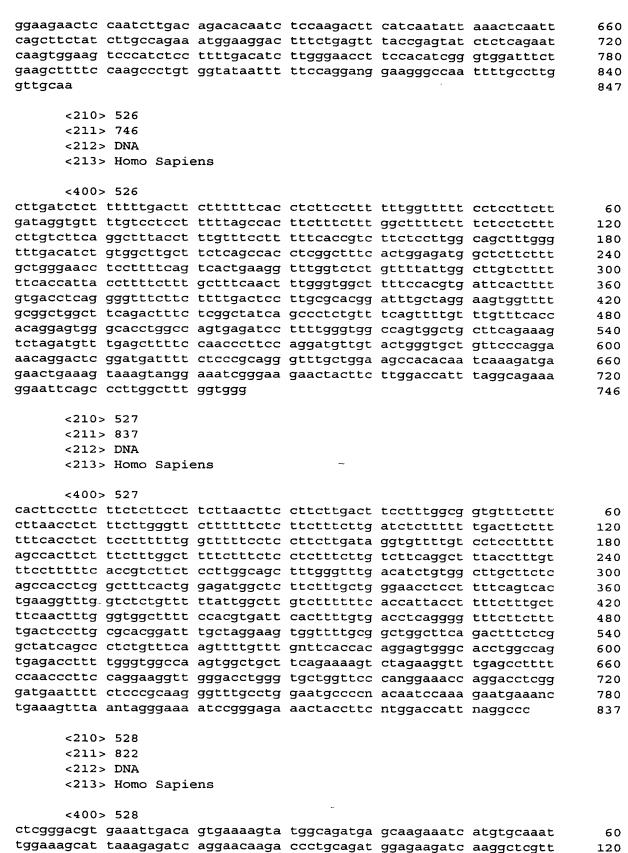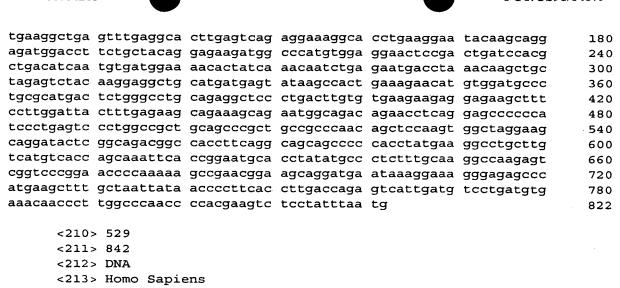
<400> 525

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gcatcgccaa cccggcggcg tccacctcgc ctagcctgtc gcaccgcttc cttgacagca   120
agttctactt gctggtggtc gtcggcgaga tcgtgaccga ggagcacctg cggcgtgcca   180
tcggcaacat cgagctcgga atccgatcat gggacacaaa cctgattgaa tgcaacttgg   240
accaagaact caaacttttt gtatctcgac actctgcaag attctctcct gaagtcccag   300
gacaaaagat ccttcatcac cgaagtgacg ttttagaaac agtggtcctg atcaacccct   360
ctgatgaagc agtcagcacc gaggtgcgct aatgatcac tgatgctgcc cgacacaagc   420
tgctcgtgct gaccgggcag tgctttgaaa ataccggaga gctcattctc cagtccggct   480
ctttctcctt ccagaacttc atagagattt tcaccgatca agagatcggg gagttactaa   540
gcaccaccca tcctgccaac aaagccagct taaccctgtt ctgtcctgaa gaaggggact   600
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ggaagaactc caatcttgac agacacaatc tccaagactt catcaatatt aaactcaatt    660
cagcttctat cttgccagaa atggaaggac tttctgagtt taccgagtat ctctcagaat    720
caagtggaag tcccatctcc ttttgacatc ttgggaacct tccacatcgg gtggatttct    780
gaagcttttc caagccctgt ggtataattt ttccaggang gaagggccaa ttttgccttg    840
gttgcaa                                                               847
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        <210> 526
        <211> 746
        <212> DNA
        <213> Homo Sapiens

        <400> 526
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gataggtgtt ttgtcctcct ttttagccac ttctttcttt ggcttttctt tctcctcttt    120
cttgtcttca ggctttacct ttgtttcctt tttcaccgtc ttctccttgg cagctttggg    180
tttgacatct gtggcttgct tctcagccac ctcggctttc actggagatg gctcttcttt    240
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ttcaccatta ccttttcttt gctttcaact ttgggtggct tttccacgtg attcactttt    360
gtgacctcag gggtttcttc ttttgactcc ttgcgcacgg atttgctagg aagtggtttt    420
gcggctggct tcagactttc tcggctatca gccctctgtt tcagttttgt ttgtttcacc    480
acaggagtgg gcacctggcc agtgagatcc ttttgggtgg ccagtggctg cttcagaaag    540
tctagatgtt tgagcttttc caacccttcc aggatgttgt actgggtgct gttcccagga    600
aacaggactc ggatgatttt ctcccgcagg gtttgctgga agccacacaa tcaaagatga    660
gaactgaaag taaagtangg aaatcgggaa gaactacttc ttggaccatt taggcagaaa    720
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        <212> DNA
        <213> Homo Sapiens            —

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tttcacctct tccttttttg gttttttcctc cttcttgata ggtgttttgt cctccttttt    180
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ttcctttttc accgtcttct ccttggcagc tttgggtttg acatctgtgg cttgcttctc    300
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tgactccttg cgcacggatt gctaggaag tggttttgcg gctggcttca gactttctcg    540
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gatgaatttt ctcccgcaag ggtttgcctg gaatgccccn acaatccaaa gaatgaaanc    780
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        <211> 822
        <212> DNA
        <213> Homo Sapiens

        <400> 528
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tgaaggctga gtttgaggca cttgagtcag aggaaaggca cctgaaggaa tacaagcagg      180
agatggacct tctgctacag gagaagatgg cccatgtgga ggaactccga ctgatccacg      240
ctgacatcaa tgtgatggaa aacactatca aacaatctga gaatgaccta aacaagctgc      300
tagagtctac aaggaggctg catgatgagt ataagccact gaaagaacat gtggatgccc      360
tgcgcatgac tctgggcctg cagaggctcc ctgacttgtg tgaagaagag gagaagcttt      420
ccttggatta ctttgagaag cagaaagcag aatggcagac agaacctcag gagccccca       480
tccctgagtc cctggccgct gcagcccgct ccgcccaac agctccaagt ggctaggaag       540
caggatactc ggcagacggc caccttcagg cagcagcccc cacctatgaa ggcctgcttg       600
tcatgtcacc agcaaattca ccggaatgca cctatatgcc ctctttgcaa ggccaagagt       660
cggtcccgga accccaaaaa gccgaacgga agcaggatga ataaaggaaa gggagagccc       720
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aaacaaccct tggcccaacc ccacgaagtc tcctatttaa tg                         822
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        <211> 842
        <212> DNA
        <213> Homo Sapiens


        <400> 529
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attttttgtc agtcagcccc catccccatc ccttatcttc gagtgacctt accaggaaac      180
ctggctttgg tggaaaggag agctgtgggg cttggggagc ctgatgcctt ttcttttggg      240
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ctgggggcac tctcagccaa ggaagcccct acagccgagc cctcagccct aatgacttag      540
gcagtaggtt aggcaggaga tgtagaagtt ggtctggctc actgatttca ctgtggaaat      600
cttctactag aatttgcaaa gactagatat tggggaaagg ttcattgatc ttaagaatcc      660
caagacacac agcctagtac ctaagaattt taagtatatg tggggagaca gaagtgggag      720
aaagctaaag aattaccggc catgccttcc aaatgattat gaaaaggag ggcttggtcc       780
aagcttacct ttgggccttt aaggatgaan atganggta ggaagtangg gggatacatg       840
cc                                                                     842
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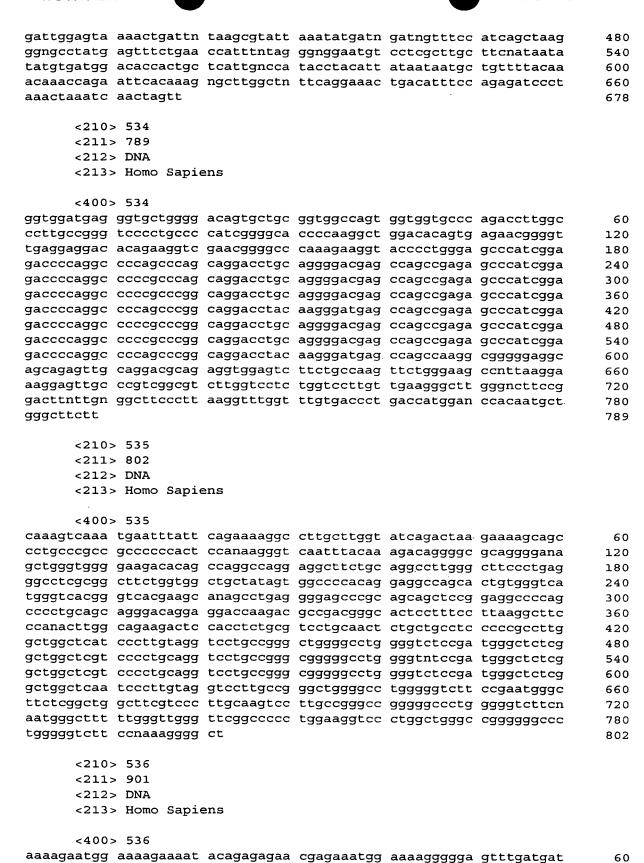
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        <210> 530
        <211> 815
        <212> DNA
        <213> Homo Sapiens


        <400> 530
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aagagcatat gaaagtaagg aaggaaagat atgaaaataa tgataaatac agagatagag      180
aaaaacgaga ggtaggtgtt cagtcttcag aaagaaatca agacagaaag gaaagcagcc      240
caaattctag ggcaaaggat aaatttcttg accaagaaag atccaacaaa atgagaaaca      300
tggcaaagga caaagaaaga aaccaagaga aaccctctaa ttctgaatca tcactgggag      360
caaaacacag actcacagag gaagggcaag agaagggtaa agaacaagag agaccacctg      420
aggcagtgag caagtttgca aagcggaaca atgaagaaac tgtaatgtca gctagagaca      480
ggtacttggc caggcagatg gcgcgggtta atgcaaagac ctatattgag aaagaagatg      540
attgatggct accccaagag aaagatttaa ggaagcacag aaaactgtaa ttcctggaac      600
ctgctgcgta aaaccataaa ggagtgtgtt acccagtagt ttggagggca ttttttaaatt      660
tattttcaaa attttaagtt aaaagtcagt cttaagcttg gatgttttgg aatgtggatg      720
tttggctgaa tttatatata gggngtactc atcaatacon cattctttgt gganttcaag      780
aacccgttaa gagtgtgctt aattccctga ngtac                                 815
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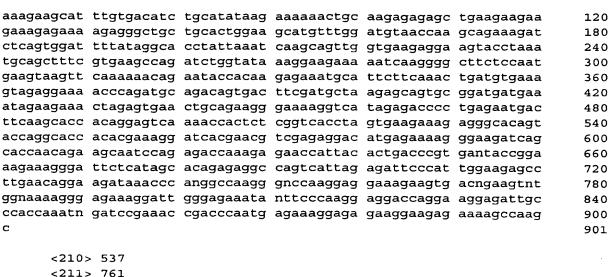
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<211> 857
<212> DNA
<213> Homo Sapiens

<400> 531

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tttttcaaat ccatatttta tctgaaatac atttcctgca acaaaacatt attagaagag     180
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ggagtgcagt ggcatgatca tacctcactg taacatcaaa ttcctaggct caagtgatct     300
tcttgcctca gcctcttgaa cagctgggac tacaggcatg gactaccatg ctaggctttt     360
tgttttttaa atagagacaa ggtcttatta tcctgcctag gctggtcttg aatgcctagc     420
ctcaatatcc ttctgccttg gcctcccaaa atgttggtat tacaggcacg agctaccgta     480
tctggccaaa attatttttt aatggttgta gtggagcaaa ttttcctcat tatgtaccta     540
cagggaatta gcacactctt aacggttctt gaatcaacaa agaatgtggt attgatgagt     600
acacactata tataaattca gccaaacatc cacatccaaa catccaagct gtaagactga     660
cttttaactt aaaattttga aaataaattt aaaaagccct tcaaactact ggtaacacac     720
ttcnttatgg tttaccccac aggntncagg aattccagtt tctgggcttn ccttaaacct     780
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gccatttggc ctggcca                                                     857
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<210> 532
<211> 736
<212> DNA
<213> Homo Sapiens

<400> 532

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tgaaaaggag gcctctgaga atgaaacaga catggaagac cccagagaaa tccagactga     180
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agtggcccca gggcacgagc ggtctggctg cgagacccct gtcagcgtgg actccatccc     300
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gggcccatac tacagcgcac tgtcagatgt agaaatccct gaaaatcctg aggcatatct     420
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gtggcatgtt cccgacagcc cttcctgtcc cgagcatcac tacaagcaaa tggaaggtga     540
caggaatgtt ccacctgttc cccctgcgtc cagcacccct tataaaccac cctatggaaa     600
gctactatta cctccaggca cggatggtgg caaagaaagc ccgcgagtcc tgaatggcaa     660
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<210> 533
<211> 678
<212> DNA
<213> Homo Sapiens

<400> 533

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agtttntgnn ccaacccccc gcccccaccc ccgccgnggc caaacagtta aaacccaaag     120
caaagcatca ntttggatgt gaaaaagtnt taaaaaatta acttacaaaa ncatccctat     180
caagtcggta gttnggcatt tactttacat tagtcaaaag ctccagctaa aatctaattt     240
ttttaaaaaa aaatcgaagt ttacattatt catacanatt gggcattgtt aaaaaatatg     300
cncaaataac cacatccatg caatacaatt tntttaaaaa tttaaagcan tntaaaagag     360
cagagctagg tnctgaacan aacattttgg ngtataaccg gcagntcaaa attgccagct     420
```

```
gattggagta aaactgattn taagcgtatt aaatatgatn gatngtttcc atcagctaag      480
ggngcctatg agtttctgaa ccatttntag ggnggaatgt cctcgcttgc ttcnataata      540
tatgtgatgg acaccactgc tcattgncca tacctacatt ataataatgc tgttttacaa      600
acaaaccaga attcacaaag ngcttggctn ttcaggaaac tgacatttcc agagatccct      660
aaactaaatc aactagtt                                                    678
```

```
        <210> 534
        <211> 789
        <212> DNA
        <213> Homo Sapiens

        <400> 534
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tgaggaggac acagaaggtc gaacggggcc caaagaaggt acccctggga gcccatcgga      180
gaccccaggc cccagcccag caggacctgc aggggacgag ccagccgaga gcccatcgga      240
gaccccaggc ccccgcccag caggacctgc aggggacgag ccagccgaga gcccatcgga      300
gaccccaggc ccccgcccgg caggacctgc aggggacgag ccagccgaga gcccatcgga      360
gaccccaggc cccagcccgg caggacctac aagggatgag ccagccgaga gcccatcgga      420
gaccccaggc ccccgcccgg caggacctgc aggggacgag ccagccgaga gcccatcgga      480
gaccccaggc ccccgcccgg caggacctgc aggggacgag ccagccgaga gcccatcgga      540
gaccccaggc cccagcccgg caggacctac aagggatgag ccagccaagg cggggggaggc      600
agcagagttg caggacgcag aggtggagtc ttctgccaag ttctgggaag ccnttaagga      660
aaggagttgc ccgtcggcgt cttggtcctc tggtccttgt tgaagggctt gggncttccg      720
gacttnttgn ggcttccctt aaggtttggt ttgtgaccct gaccatggan ccacaatgct      780
gggcttctt                                                              789
```

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        <210> 535
        <211> 802
        <212> DNA
        <213> Homo Sapiens

        <400> 535
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gctgggtggg gaagacacag ccaggccagg aggcttctgc aggccttggg cttccctgag      180
ggcctcgcgg cttctggtgg ctgctatagt ggccccacag gaggccagca ctgtgggtca      240
tgggtcacgg gtcacgaagc anagcctgag gggagcccgc agcagctccg gaggccccag      300
cccctgcagc agggacagga ggaccaagac gccgacgggc actcctttcc ttaaggcttc      360
ccanacttgg cagaagactc cacctctgcg tcctgcaact ctgctgcctc ccccgccttg      420
gctggctcat cccttgtagg tcctgccggg ctggggcctg gggtctccga tgggctctcg      480
gctggctcgt cccctgcagg tcctgccggg cggggccctg gggtntccga tgggctctcg      540
gctggctcgt cccctgcagg tcctgccggg cggggcctg gggtctccga tgggctctcg      600
gctggctcaa tcccttgtag gtccttgccg ggctggggcc tggggggtctt ccgaatgggc      660
ttctcggctg gcttcgtccc ttgcaagtcc ttgccgggcc ggggccctg ggggtcttcn      720
aatgggcttt ttgggttggg ttcggccccc tggaaggtcc ctggctgggc cggggggccc      780
tggggggtctt ccnaaagggg ct                                              802
```

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        <210> 536
        <211> 901
        <212> DNA
        <213> Homo Sapiens

        <400> 536
aaaagaatgg aaaagaaaat acagagagaa cgagaaatgg aaaaggggga gtttgatgat       60
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aaagaagcat ttgtgacatc tgcatataag aaaaaactgc aagagagagc tgaagaagaa      120
gaaagagaaa agagggctgc tgcactggaa gcatgtttgg atgtaaccaa gcagaaagat      180
ctcagtggat tttataggca cctattaaat caagcagttg gtgaagagga agtacctaaa      240
tgcagctttc gtgaagccag atctggtata aaggaagaaa aatcaagggg cttctccaat      300
gaagtaagtt caaaaaacag aataccacaa gagaaatgca ttcttcaaac tgatgtgaaa      360
gtagaggaaa acccagatgc agacagtgac ttcgatgcta agagcagtgc ggatgatgaa      420
atagaagaaa ctagagtgaa ctgcagaagg gaaaaggtca tagagacccc tgagaatgac      480
ttcaagcacc acaggagtca aaaccactct cggtcaccta gtgaagaaag agggcacagt      540
accaggcacc acacgaaagg atcacgaacg tcgagaggac atgagaaaag ggaagatcag      600
caccaacaga agcaatccag agaccaaaga gaaccattac actgacccgt gantaccgga      660
aagaaaggga ttctcatagc acagagaggc cagtcattag agattcccat tggaagagcc      720
ttgaacagga agataaaccc anggccaagg gnccaaggag gaaagaagtg acngaagtnt      780
ggnaaaaggg agaaaggatt gggagaaata nttcccaagg aggaccagga aggagattgc      840
ccaccaaatn gatccgaaac cgacccaatg agaaaggaga gaaggaagag aaaagccaag      900
c                                                                     901
```

<210> 537
<211> 761
<212> DNA
<213> Homo Sapiens

<400> 537
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ttcaaatcca tattttatct gaaatacatt tcctgcaaca aaacattatt agaagagtta      180
aattatttat ttaaaaaaaa ttttttagag acagggtctc attctgttgc ccaggttgga      240
gtgcagtggc atgatcatac ctcactgtaa catcaaattc ctaggctcaa gtgatcttct      300
tgcctcagcc tnttgaacag ctgggactac aggcatggac taccatgcta ggcttttgt       360
tttttaaata gagacaaggt cttattatcc tgcctaggct ggtcttgaat gcctagcctc      420
aatatccttc tgccttggcc tcccaaaatg ttggtattac aggcacgagc taccggatct      480
ggccaaaatt attttttaat ggttgtagtg gagcaaattt tcctcattat gtacctacag      540
ggaattaagc cactcttaac ggttcttgaa tcnncaaaga atgtggnatt gatgagttcn      600
cactatatat aaattcagcc caaacatcca cattcnaaca tnccagctgt aagactgact      660
tttaacttaa aattttgaaa natnaaattt aaaaatgccc tncaaaacta ctgggaacac      720
cctcccttta tgggtttanc ccagcagggt tccaaggaat t                         761
```

<210> 538
<211> 869
<212> DNA
<213> Homo Sapiens
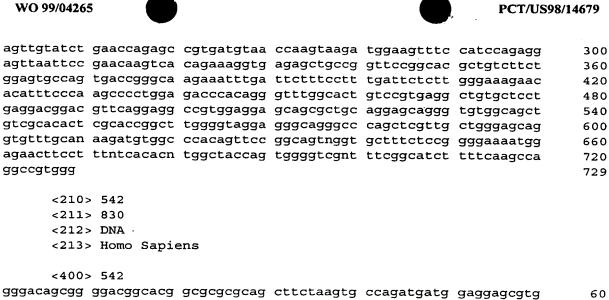
<400> 538
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cgggaacaag atggcagccc ccatacctca agggttctct tgtttatcga ggttttttggg      60
ctggtggttt cggcagccag ttctggtgac tcagtccgca gctatagttc cagtaagaac      120
taaaaaacgt ttcacacctc ctatttatca acctaaattt aaaacagaaa aggagtttat      180
gcaacatgcc cggaaagcag gattggttat tcctccagaa aaatcggacc gttccataca      240
tctggcctgt acagctggta tatttgatgc ctatgttcct cctgagggtg atgcacgcat      300
atcatctctt tcaaggagg gactgataga gagaactgaa cgaatgaaga agactatggc       360
atcacaagtg tcaatccgga ggataaaaga ctatgatgcc aactttaaaa taaaggactt      420
ccctgaaaaa gctaaggata tctttattga agctcacctt tgtctaaata actcagacca      480
tgaccgactt cataccttgg taactgaaca ctgttttcca gacatgactt gggacatcaa      540
atataagacc gtccgctgga gctttgtgga atctttagag ccctctcatg ttgttcaagt      600
tcgctgttca agtatgatga accagggcaa cgtgtaccgn ccagatcacc gtaccgcatg      660
cacacccggc agactctggc catctatgac cgggtttggc ccggttgatg tatgggccag      720
gnagatgtcc ccaggatgtc ctggaagtat gttggantcg aaaagcagnt tgccaaancc      780
```

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```
ctatggaagc tggagaagcn tacccaagac ggtncccct gggcacccc ttaagcaggc      840
catcctttaa aacggggatg atcccttgg                                       869
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        <210> 539
        <211> 760
        <212> DNA
        <213> Homo Sapiens

        <400> 539

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aagggataaa ttatttcttt ggatttatat ttttccataa aatgcaaatg ctgattcatc      60
agtgagtcag tatatgaaaa agggcctctt aaatgtctta taaacactaa ttattcttcc     120
ccagtcttca tttccttaaa gtcacatcgc tcacaagtag gctcatcttc cacttctgcc     180
atctgaaggc tggtccatgc ccagcctgaa ccaggggaaa tgtgcagaac tcaccaaaat     240
ttttccaaca ccctgacaac atttcatttc aaactctgat ccctgccctg tgattacaaa     300
gaggatgctg ctggttgtct ctcacagtcc ctgctgtggg aaaaactgat atccaatgtt     360
ctctgaaaca tactgtcttt catctagact cagaagctag acataaaatt taaaaaagaa     420
gagtgtccat ggccatgtta tacctgccac ctgctagggc ccagtcatca gtcatggttg     480
ctgatgatga gactgctgaa aagacctgag caggatggga gagaacaaag gtagttcttt     540
ttatagcatg aggggaatgg gagacttcaa agcttncagg cagcctcatc accccaggct     600
tcaccctaga aagtcatttt tgncatcagg gctaacctga ngcttctggg gcctctcctt     660
gggcctcttc ataatcttct tctgggnttc agcttgaagg gccagggat tcatnacccg      720
gctttaaagg gatggggcct gcttagggg ggtgccccat                            760
```

        <210> 540
        <211> 874
        <212> DNA
        <213> Homo Sapiens

        <400> 540

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attctttggt cctttggagc tggtggagaa actttgtcca gaagcatcag atatagcgac     120
tagtgtcaga aatcttccag aattaaagac agctgtggga agaggccgag cgtggcttta     180
tcttgcactc atgcaaaaga aactggcaga ttatctgaaa gtgcttatag acaataaaca     240
tctcttaagc gagttctatg agcctgaggc tttaatgatg gaggaagaag ggatggtgat     300
tgttggtctg ctggtgggac tcaatgttct cgatgccaat ctctgcttga aggagaaga     360
cttggattct caggttggag taatagattt ttccctctac cttaaggatg tgcaggatct     420
tgatggtggc aaggagcatg aaagaattac tgatgtcctt gatcaaaaaa attatgtgga     480
agaacttaac cggcacttga gctgcacagt tggggatctt caaaccaaga tagatggctt     540
ggaaaagact aactcaaagc ttcaagaaga gctttcagct gcaacagacc gaatttgctc     600
acttcaagaa gaacagcagc agttaaagag aacnaaatga attaattcga gaaagaagtn     660
aaaagagtgt agaagatacn aaacaggatc caaagttgag ctggagactt acagccaact     720
tcgcaaggtc tggatgaaat gtcnntgatg tgtggaagca cttaaagagg agaagaaagt     780
ccggttggaa ctggaaaaaa gaactggagn tccaaatggg aatgaaaacc caaatnggaa     840
atgccatgaa gttcctggna aaggcccccc ccaa                                 874
```

        <210> 541
        <211> 729
        <212> DNA
        <213> Homo Sapiens

        <400> 541

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gaaaaataaa tgatttttatt gcagggccaa tgataggtag tcacaagggc atgaaatggc     60
agatctcttg tctgaagcag agaaggcaca ctggcagact ccatgtgtgt caaacgctgt     120
gcatgaatca ggttttttaga aggaaggtag gagaggaaaa ctactcacta gcagaactga     180
actgctgtaa aataggttaa attctttgaa aagtgaaaaa tgatagtagc aaaatcatga     240
```

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```
agttgtatct gaaccagagc cgtgatgtaa ccaagtaaga tggaagtttc catccagagg    300
agttaattcc gaacaagtca cagaaaggtg agagctgccg gttccggcac gctgtcttct    360
ggagtgccag tgaccgggca agaaatttga ttctttcctt tgattctctt gggaaagaac    420
acatttccca agcccctgga gacccacagg gtttggcact gtccgtgagg ctgtgctcct    480
gaggacggac gttcaggagg ccgtggagga gcagcgctgc aggagcaggg tgtggcagct    540
gtcgcacact cgcaccggct tggggtagga gggcagggcc cagctcgttg ctgggagcag    600
gtgtttgcan aagatgtggc ccacagttcc ggcagtnggt gctttctccg gggaaaatgg    660
agaacttcct ttntcacacn tggctaccag tggggtcgnt ttcggcatct tttcaagcca    720
ggccgtggg                                                           729
```

```
        <210> 542
        <211> 830
        <212> DNA ·
        <213> Homo Sapiens

        <400> 542
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ccaacctgat gcacatgatg aaactcagca tcaaggtgtt gctccagtcg gctctgagcc    120
tgggccgcag cctggatgcg gaccatgccc ccttgcagca gttctttgta gtgatggagc    180
actgcctcaa acatgggctg aaagttaaga agagtttat tggccaaaat aaatcattct     240
ttggtccttt ggagctggtg gagaaacttt gtccagaagc atcagatata gcgactagtg    300
tcagaaatct tccagaatta aagacagctg tgggaagagg ccgagcgtgg ctttatcttg    360
cactcatgca aaagaaactg gcagattatc tgaaagtgct tatagacaat aaacatctct    420
taagcgagtt ctatgagcct gaggctttaa tgatggagga agaagggatg gtgattgttg    480
gtctgctggt gggactcaat gttctcgatg ccaatctctg cttgaaagga gaagacttgg    540
attctcaggt tggagtaata gattttccc tctaccttaa ggatgtgcag gatcttgatg    600
gtggcaagga gcatgaaaga attactgatg tccttgatca aaaaaattat gtggaagaac    660
ttaacccggc acttgagctg caccagttgg ggatctttca acccaagata gatggctttg    720
gaaaagacta actcaaagct tcagaagagc nttnagctgc accagaccga attttgctcc    780
tttcaagaaa nacagcaccn gttaagaaaa ccaaatggaa ttaatttcag                830
```

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        <210> 543
        <211> 733
        <212> DNA
        <213> Homo Sapiens

        <400> 543
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agatctcttg tctgaagcag agaaggcaca ctggcagact ccatgtgtgt caaacgctgt    120
gcatgaatca ggttttttaga aggaaggtag gagaggaaaa ctactcacta gcagaactga    180
actgctgtaa aataggttaa attctttgaa aagtgaaaaa tgatagtagc aaaatcatga    240
agttgtatct gaaccagagc cgtgatgtaa ccaagtaaga tggaagtttc catccagagg    300
agttaattcc gaacaagtca cagaaaggtg anagctgccg gttccggcac gctgtcttct    360
ggagtgccag tgaccgggca agaaatttga ttctttcctt tgattctctt gggaaagaac    420
acatttccca agcccctgga gacccacagg gtttggcact gtccgtgagg ctgtgctcct    480
gaggacggac gttcaggagg cccgtggagg agcagcgctg caggagcagg gtgtggcagc    540
tgtcgcacac tcgcaccggc ttggggtagg anggcagggc tagctcgttg ctggancang    600
tgttgcaaaa naatgtggcc acagntncgg cagtgggtgc tttntccggg aaaagggaga    660
acttccttnt cacacttggc tacagnggng gncgctttcg ncatcttttt ancccaggcg    720
nnggcccttt caa                                                       733
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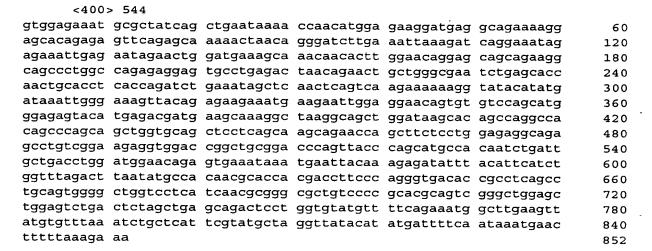
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        <210> 544
        <211> 852
        <212> DNA
        <213> Homo Sapiens
```

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        <400> 544
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agaaattgag aatagaactg gatgaaagca aacaacactt ggaacaggag cagcagaagg       180
cagccctggc cagagaggag tgcctgagac taacagaact gctgggcgaa tctgagcacc       240
aactgcacct caccagatct gaaatagctc aactcagtca agaaaaaagg tatacatatg       300
ataaattggg aaagttacag agaagaaatg aagaattgga ggaacagtgt gtccagcatg       360
ggagagtaca tgagacgatg aagcaaaggc taaggcagct ggataagcac agccaggcca       420
cagcccagca gctggtgcag ctcctcagca agcagaacca gcttctcctg gagaggcaga       480
gcctgtcgga agaggtggac cggctgcgga cccagttacc cagcatgcca caatctgatt       540
gctgacctgg atggaacaga gtgaaataaa tgaattacaa agagatattt acattcatct       600
ggtttagact taatatgcca caacgcacca cgaccttccc agggtgacac cgcctcagcc       660
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tggagtctga ctctagctga gcagactcct ggtgtatgtt ttcagaaatg gcttgaagtt       780
atgtgtttaa atctgctcat tcgtatgcta ggttatacat atgattttca ataaatgaac       840
tttttaaaga aa                                                            852
```

```
        <210> 545
        <211> 414
        <212> PRT
        <213> Homo Sapiens


        <400> 545
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1               5                   10                  15
Glu Ile Glu Glu Ser Gln Leu Lys Phe Leu Arg Asn Asp Leu Ala Glu
            20                  25                  30
Tyr Gln Arg Thr Cys Glu Asp Leu Lys Glu Gln Leu Lys His Lys Glu
        35                  40                  45
Phe Leu Leu Ala Ala Asn Thr Cys Asn Arg Val Gly Gly Leu Cys Leu
    50                  55                  60
Lys Cys Ala Gln His Glu Ala Val Leu Ser Gln Thr His Thr Asn Val
65                  70                  75                  80
His Met Gln Thr Ile Glu Arg Leu Val Lys Glu Arg Asp Asp Leu Met
            85                  90                  95
Ser Ala Leu Val Ser Val Arg Ser Ser Leu Ala Asp Thr Gln Gln Arg
            100                 105                 110
Glu Ala Ser Ala Tyr Glu Gln Val Lys Gln Val Leu Gln Ile Ser Glu
            115                 120                 125
Glu Ala Asn Phe Glu Lys Thr Lys Ala Leu Ile Gln Cys Asp Gln Leu
            130                 135                 140
Arg Lys Glu Leu Glu Arg Gln Ala Glu Arg Leu Glu Lys Glu Leu Ala
145                 150                 155                 160
Ser Gln Gln Glu Lys Arg Ala Ile Glu Lys Asp Met Met Lys Lys Glu
                165                 170                 175
Ile Thr Lys Glu Arg Glu Tyr Met Gly Ser Lys Met Leu Ile Leu Ser
            180                 185                 190
Gln Asn Ile Ala Gln Leu Glu Ala Gln Val Glu Lys Val Thr Lys Glu
            195                 200                 205
Lys Ile Ser Ala Ile Asn Gln Leu Glu Glu Ile Gln Ser Gln Leu Ala
    210                 215                 220
Ser Arg Glu Met Asp Val Thr Lys Val Cys Gly Glu Met Arg Tyr Gln
225                 230                 235                 240
Leu Asn Lys Thr Asn Met Glu Lys Asp Glu Ala Glu Lys Glu His Arg
            245                 250                 255
```

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```
Glu Phe Arg Ala Lys Thr Asn Arg Asp Leu Glu Ile Lys Asp Gln Glu
            260                 265                 270
Ile Glu Lys Leu Arg Ile Glu Leu Asp Glu Ser Lys Gln His Leu Glu
            275                 280                 285
Gln Glu Gln Gln Lys Ala Ala Leu Ala Arg Glu Glu Cys Leu Arg Leu
            290                 295                 300
Thr Glu Leu Leu Gly Glu Ser Glu His Gln Leu His Leu Thr Arg Ser
305                 310                 315                 320
Glu Ile Ala Gln Leu Ser Gln Glu Lys Arg Tyr Thr Tyr Asp Lys Leu
                325                 330                 335
Gly Lys Leu Gln Arg Arg Asn Glu Glu Leu Glu Glu Gln Cys Val Gln
            340                 345                 350
His Gly Arg Val His Glu Thr Met Lys Gln Arg Leu Arg Gln Leu Asp
            355                 360                 365
Lys His Ser Gln Ala Thr Ala Gln Gln Leu Val Gln Leu Leu Ser Lys
            370                 375                 380
Gln Asn Gln Leu Leu Leu Glu Arg Gln Ser Leu Ser Glu Glu Val Asp
385                 390                 395                 400
Arg Leu Arg Thr Gln Leu Pro Ser Met Pro Gln Ser Asp Cys
                405                 410
```

```
        <210> 546
        <211> 2885
        <212> DNA
        <213> Homo Sapiens

        <400> 546
ggaattcctc ttgtcgaagt caaaggagcc cacaccaggc ggcctcaacc attccctccc    60
acagcacccc aaatgctggg gagcccacca tgcttctttg gaccagagtt ccccctcccca  120
gagcggcccc cctgggacgc ctccctccta caaactgcct ttgcctgggc cctacgacag   180
tcgagacgac ttccccctcc gcaaaacagc ctctgaaccc aacttgaaag tgcgttcaag   240
gctaaaacag aaggtggctg agcggagaag cagtcccctc ctgcgtcgca aggatgggac   300
tgttattagc acctttaaga agagagctgt tgagatcaca ggtgccgggc ctggggcgtc   360
gtccgtgtgt aacagcgcac ccggctccgg ccccagctct cccaacagct cccacagcac   420
catcgctgag aatggcttta ctggctcagt ccccaacatc cccactgaga tgctccctca   480
gcaccgagcc ctccctctgg acagctcccc caaccagttc agcctctaca cgtctccttc   540
tctgcccaac atctccctag gctgcaggc cacggtcact gtcaccaact cacacctcac   600
tgcctccccg aagctgtcga cacagcagga ggccgagagg caggccctcc agtccctgcg   660
gcagggtggc acgctgaccg gcaagttcat gagcacatcc tctattcctg ctgcctgct    720
gggcgtggca ctggagggcg acgggagccc ccacgggcat gcctccctgc tgcagcatgt   780
gctgttgctg gagcaggccc ggcagcagag caccctcatt gctgtgccac tccacgggca   840
gtccccacta gtgacgggtg aacgtgtggc caccagcatg cggacggtag gcaagctccc   900
gcggcatcgg cccctgagcc gcactcagtc ctcaccgctg ccgcagagtc cccaggccct   960
gcagcagctg gtcatgcaac aacagcacca gcagttcctg gagaagcaga agcagcagca  1020
gctacagctg ggcaagatcc tcaccaagac aggggagctg cccaggcagc ccaccacca    1080
ccctgaggag acagaggagg agctgacgga gcagcaggag gtcttgctgg gggaggggagc  1140
cctgaccatg ccccggggagg gctccacaga gagtgagagc acacaggaag acctggagga  1200
ggaggacgag gaagaggatg gggaggagga ggaggattgc atccaggtta aggacgagga  1260
gggcgagagt ggtgctgagg aggggcccga cttggaggag cctggtgctg gatacaaaaa  1320
actgttctca gatgcccaac cgctgcaacc tttgcaggtg taccaagcgc ccctcagcct  1380
ggccactgtg ccccaccaag ccctgggccg tacccaatcc tcccctgctg cccctggggg  1440
catgaagaac cccccagacc aacccgtcaa gcacctcttc accacaagtg tggtctacga  1500
cacgttcatg ctaaagcacc agtgcatgtg cgggaacaca cacgtgcacc ctgagcatgc  1560
tggccggatc cagagcatct ggtcccggct gcaggagaca ggcctgctta gcaagtgcga  1620
gcggatccga ggtcgcaaag ccacgctaga tgagatccag acagtgcact ctgaatacca  1680
```

```
caccctgctc tatgggacca gtcccctcaa ccggcagaag ctagacagca agaagttgct    1740
cggtcccatc agccagaaga tgtatgctgt gctgccttgt gggggcatcg gggtggacag    1800
tgacaccgtg tggaatgaga tgcactcctc cagtgctgtg cgcatggcag tgggctgcct    1860
gctggagctg gccttcaagg tggctgcagg agagctcaag aatggatttg ccatcatccg    1920
gcccccagga caccacgccg aggaatccac agccatggga ttctgcttct tcaactctgt    1980
agccatcacc gcaaaactcc tacagcagaa gttgaacgtg ggcaaggtcc tcatcgtgga    2040
ctgggacatt caccatggca atggcaccca gcaggcgttc tacaatgacc cctctgtgct    2100
ctacatctct ctgcatcgct atgacaacgg gaacttcttt ccaggctctg gggctcctga    2160
agaggttggt ggaggaccag gcgtggggta caatgtgaac gtggcatgga caggaggtgt    2220
ggacccccc attggagacg tggagtacct tacagccttc aggacagtgg tgatgcccat    2280
tgcccacgag ttctcacctg atgtggtcct agtctccgcc gggtttgatg ctgttgaagg    2340
acatctgtct cctctgggtg gctactctgt caccgccaga tgttttggcc acttgaccag    2400
gcagctgatg accctggcag ggggccgggt ggtgctggcc ctggagggag gccatgactt    2460
gaccgccatc tgtgatgcct ctgaagcttg tgtctcggct ctgctcagtg taaagctgca    2520
gcccttggat gaggcagtct tgcagcaaaa gcccaacatc aacgcagtgg ccacgctaga    2580
gaaagtcatc gagatccaga gcaaacactg gagctgtgtg cagaagttcg ccgctggtct    2640
gggccggtcc ctgcgagggg cccaagcagg tgagaccgaa gaagccgaaa tgtgaacgcc    2700
atggccttgc tgttggtggg ggccgaacag gcccaagctg cggcagcccg gaacacagc    2760
cccaggccgg cagaggagcc catggagcag gagcctgccc tgtgacgccc cggcccccat    2820
cccttttggc ttcaccattg tgattttgtt tattttttct attaaaaaca aaagttaaa    2880
aattt                                                               2885
```

        <210> 547
        <211> 897
        <212> PRT
        <213> Homo Sapiens

        <400> 547
```
Glu Phe Leu Leu Ser Lys Ser Lys Glu Pro Thr Pro Gly Gly Leu Asn
1               5                   10                  15
His Ser Leu Pro Gln His Pro Lys Cys Trp Gly Ala His His Ala Ser
            20                  25                  30
Leu Asp Gln Ser Ser Pro Pro Gln Ser Gly Pro Pro Gly Thr Pro Pro
        35                  40                  45
Ser Tyr Lys Leu Pro Leu Pro Gly Pro Tyr Asp Ser Arg Asp Asp Phe
    50                  55                  60
Pro Leu Arg Lys Thr Ala Ser Glu Pro Asn Leu Lys Val Arg Ser Arg
65                  70                  75                  80
Leu Lys Gln Lys Val Ala Glu Arg Arg Ser Ser Pro Leu Leu Arg Arg
                85                  90                  95
Lys Asp Gly Thr Val Ile Ser Thr Phe Lys Lys Arg Ala Val Glu Ile
            100                 105                 110
Thr Gly Ala Gly Pro Gly Ala Ser Ser Val Cys Asn Ser Ala Pro Gly
        115                 120                 125
Ser Gly Pro Ser Ser Pro Asn Ser Ser His Ser Thr Ile Ala Glu Asn
    130                 135                 140
Gly Phe Thr Gly Ser Val Pro Asn Ile Pro Thr Glu Met Leu Pro Gln
145                 150                 155                 160
His Arg Ala Leu Pro Leu Asp Ser Ser Pro Asn Gln Phe Ser Leu Tyr
                165                 170                 175
Thr Ser Pro Ser Leu Pro Asn Ile Ser Leu Gly Leu Gln Ala Thr Val
            180                 185                 190
Thr Val Thr Asn Ser His Leu Thr Ala Ser Pro Lys Leu Ser Thr Gln
        195                 200                 205
Gln Glu Ala Glu Arg Gln Ala Leu Gln Ser Leu Arg Gln Gly Gly Thr
```

```
          210                     215                     220
Leu Thr Gly Lys Phe Met Ser Thr Ser Ser Ile Pro Gly Cys Leu Leu
225                     230                     235                     240
Gly Val Ala Leu Glu Gly Asp Gly Ser Pro His Gly His Ala Ser Leu
                    245                     250                     255
Leu Gln His Val Leu Leu Leu Glu Gln Ala Arg Gln Gln Ser Thr Leu
                    260                     265                     270
Ile Ala Val Pro Leu His Gly Gln Ser Pro Leu Val Thr Gly Glu Arg
                    275                     280                     285
Val Ala Thr Ser Met Arg Thr Val Gly Lys Leu Pro Arg His Arg Pro
            290                     295                     300
Leu Ser Arg Thr Gln Ser Ser Pro Leu Pro Gln Ser Pro Gln Ala Leu
305                     310                     315                     320
Gln Gln Leu Val Met Gln Gln Gln His Gln Gln Phe Leu Glu Lys Gln
                    325                     330                     335
Lys Gln Gln Gln Leu Gln Leu Gly Lys Ile Leu Thr Lys Thr Gly Glu
                    340                     345                     350
Leu Pro Arg Gln Pro Thr Thr His Pro Glu Glu Thr Glu Glu Glu Leu
                    355                     360                     365
Thr Glu Gln Gln Glu Val Leu Leu Gly Glu Gly Ala Leu Thr Met Pro
            370                     375                     380
Arg Glu Gly Ser Thr Glu Ser Glu Ser Thr Gln Glu Asp Leu Glu Glu
385                     390                     395                     400
Glu Asp Glu Glu Glu Asp Gly Glu Glu Glu Glu Asp Cys Ile Gln Val
                    405                     410                     415
Lys Asp Glu Glu Gly Glu Ser Gly Ala Glu Glu Gly Pro Asp Leu Glu
                    420                     425                     430
Glu Pro Gly Ala Gly Tyr Lys Lys Leu Phe Ser Asp Ala Gln Pro Leu
                    435                     440                     445
Gln Pro Leu Gln Val Tyr Gln Ala Pro Leu Ser Leu Ala Thr Val Pro
            450                     455                     460
His Gln Ala Leu Gly Arg Thr Gln Ser Ser Pro Ala Ala Pro Gly Gly
465                     470                     475                     480
Met Lys Asn Pro Pro Asp Gln Pro Val Lys His Leu Phe Thr Thr Ser
                    485                     490                     495
Val Val Tyr Asp Thr Phe Met Leu Lys His Gln Cys Met Cys Gly Asn
                    500                     505                     510
Thr His Val His Pro Glu His Ala Gly Arg Ile Gln Ser Ile Trp Ser
                    515                     520                     525
Arg Leu Gln Glu Thr Gly Leu Leu Ser Lys Cys Glu Arg Ile Arg Gly
            530                     535                     540
Arg Lys Ala Thr Leu Asp Glu Ile Gln Thr Val His Ser Glu Tyr His
545                     550                     555                     560
Thr Leu Leu Tyr Gly Thr Ser Pro Leu Asn Arg Gln Lys Leu Asp Ser
                    565                     570                     575
Lys Lys Leu Leu Gly Pro Ile Ser Gln Lys Met Tyr Ala Val Leu Pro
                    580                     585                     590
Cys Gly Gly Ile Gly Val Asp Ser Asp Thr Val Trp Asn Glu Met His
            595                     600                     605
Ser Ser Ser Ala Val Arg Met Ala Val Gly Cys Leu Leu Glu Leu Ala
            610                     615                     620
Phe Lys Val Ala Ala Gly Glu Leu Lys Asn Gly Phe Ala Ile Ile Arg
625                     630                     635                     640
Pro Pro Gly His His Ala Glu Glu Ser Thr Ala Met Gly Phe Cys Phe
                    645                     650                     655
```

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```
Phe Asn Ser Val Ala Ile Thr Ala Lys Leu Leu Gln Gln Lys Leu Asn
            660             665             670
Val Gly Lys Val Leu Ile Val Asp Trp Asp Ile His His Gly Asn Gly
            675             680             685
Thr Gln Gln Ala Phe Tyr Asn Asp Pro Ser Val Leu Tyr Ile Ser Leu
            690             695             700
His Arg Tyr Asp Asn Gly Asn Phe Phe Pro Gly Ser Gly Ala Pro Glu
705             710             715             720
Glu Val Gly Gly Gly Pro Gly Val Gly Tyr Asn Val Asn Val Ala Trp
                725             730             735
Thr Gly Gly Val Asp Pro Pro Ile Gly Asp Val Glu Tyr Leu Thr Ala
                740             745             750
Phe Arg Thr Val Val Met Pro Ile Ala His Glu Phe Ser Pro Asp Val
            755             760             765
Val Leu Val Ser Ala Gly Phe Asp Ala Val Glu Gly His Leu Ser Pro
        770             775             780
Leu Gly Gly Tyr Ser Val Thr Ala Arg Cys Phe Gly His Leu Thr Arg
785             790             795             800
Gln Leu Met Thr Leu Ala Gly Gly Arg Val Val Leu Ala Leu Glu Gly
                805             810             815
Gly His Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ser
                820             825             830
Ala Leu Leu Ser Val Lys Leu Gln Pro Leu Asp Glu Ala Val Leu Gln
            835             840             845
Gln Lys Pro Asn Ile Asn Ala Val Ala Thr Leu Glu Lys Val Ile Glu
        850             855             860
Ile Gln Ser Lys His Trp Ser Cys Val Gln Lys Phe Ala Ala Gly Leu
865             870             875             880
Gly Arg Ser Leu Arg Gly Ala Gln Ala Gly Glu Thr Glu Glu Ala Glu
                885             890             895
Met
```

```
<210> 548
<211> 1298
<212> DNA
<213> Homo Sapiens

<400> 548
ggctgctgaa atgactgcga accggcttgc agagagcctt ctggctttga gccancagga      60
agaactagcg gatttgccaa aagactacct cttgagtgag agtgaagatg aggggggacaa     120
tgatggagag agaaagcatc naaagcttct ggaagcaatc agttcccttg atggaaagaa     180
taggcggaaa ttggctgana ggtctgaggc tagtctgaag gtgtcagagt tcaatgtcag     240
ttctgaagga tcaggagaaa agctggtcct tgcagatctg cttgagcctg ttaaaacttc     300
atcttctttg gccactgtga aaaagcaact gagtagagtc anatcaaaga anacagtgga     360
gttacctctg aacaaagaag agattgaacg gatccacaga gaatagcatt caataaaacg     420
cacaagtcct ctccaaatgg gaccctgtcg tcctgaagaa ccggcaggca gagcagctgg     480
ttttccccct ggagaaagag gagccagcca ttgctcccat tgaacatgtg ctcagtggct     540
ggaaggcaag aactcccctg agcaggaaa ttttcaacct cctccataag aacaagcagc     600
cagtgacaga cccctttactg acccctgtgg aaaaggcctc tctccgagcc atgagcctag     660
aagaggcaaa gatgcgacga gcagagcttc agagggctcg ggctctgcag tcctactatg     720
angccaaggc tcgaagagag aagaaaatcn aaagttaaaa gtatcacaaa gtcgtgaaga     780
aaggaaaggc caagaaagcc ctaaaagagt ttgagcagct gcggaaggtt aatccagctg     840
ccgcactaga agaacgaaga aaagaggaaa gaaggaggag gagaaagaag aagaacaagg     900
agaagaagaa agaagaaggg agaaggagaa gaaaagaagg agaagaggaa aaggaagaag     960
```

```
gagaaagaaa aggagaagga aaaggaaaag aaggagaaga aagaagaact aagaagaagg   1020
agaggaagaa taagaaggaa agaagaaaga aaaaagtnaa agaagaagaa agaaggaaga   1080
aggaaagaag aggaagaact nagaagaaga aagaggagga aagaagaaag aagaataagg   1140
aacnagaaag aaggagaaga aagaataaga agaggaagaa gaaaaagaag aaaagaagaa   1200
ggaaagaagg agaaaaagga agaaaaaagg aagaagaaag tagaaagcgg aagaaagaaa   1260
agaaagtata agaaggaaga agaagaaaga aggaaaaaa                          1298
```

```
    <210> 549
    <211> 236
    <212> PRT
    <213> Homo Sapiens

    <400> 549
Ala Ala Glu Met Thr Ala Asn Arg Leu Ala Glu Ser Leu Leu Ala Leu
1               5                   10                  15
Ser Gln Glu Glu Leu Ala Asp Leu Pro Lys Asp Tyr Leu Leu Ser Glu
            20                  25                  30
Ser Glu Asp Glu Gly Asp Asn Asp Gly Glu Arg Lys His Lys Leu Leu
        35                  40                  45
Glu Ala Ile Ser Ser Leu Asp Gly Lys Asn Arg Arg Lys Leu Ala Arg
    50                  55                  60
Ser Glu Ala Ser Leu Lys Val Ser Glu Phe Asn Val Ser Ser Glu Gly
65                  70                  75                  80
Ser Gly Glu Lys Leu Val Leu Ala Asp Leu Leu Glu Pro Val Lys Thr
                85                  90                  95
Ser Ser Ser Leu Ala Thr Val Lys Lys Gln Leu Ser Arg Val Ser Lys
            100                 105                 110
Thr Val Glu Leu Pro Leu Asn Lys Glu Glu Ile Glu Arg Ile His Arg
        115                 120                 125
Glu Ile Ala Phe Asn Lys Thr His Lys Ser Ser Pro Asn Gly Thr Leu
    130                 135                 140
Ser Ser Val Leu Lys Asn Arg Gln Ala Glu Gln Leu Val Phe Pro Leu
145                 150                 155                 160
Glu Lys Glu Glu Pro Ala Ile Ala Pro Ile Glu His Val Leu Ser Gly
                165                 170                 175
Trp Lys Ala Arg Thr Pro Leu Glu Gln Glu Ile Phe Asn Leu Leu His
                180                 185                 190
Lys Asn Lys Gln Pro Val Thr Asp Pro Leu Leu Thr Pro Val Glu Lys
            195                 200                 205
Ala Ser Leu Arg Ala Met Ser Leu Glu Glu Ala Lys Met Arg Arg Ala
210                 215                 220
Glu Leu Gln Arg Ala Arg Ala Leu Gln Ser Tyr Tyr
225                 230                 235
```

```
    <210> 550
    <211> 2236
    <212> DNA
    <213> Homo Sapiens

    <400> 550
cctggcccgg tcgcggtcgc ggctctttcc agctcctggc agccgggcac ccgaaggaac   60
gggtcgtgca acgacgcagc tggacctggc ccagccatgg accgaaaagt ggcccgagaa   120
ttccggcata aggtggattt tctgattgaa aatgatgcag agaaggacta tctctatgat   180
gtgctgcgaa tgtaccacca gaccatggac gtggccgtgc tcgtgggaga cctgaagctg   240
gtcatcaatg aacccagccg tctgcctctg tttgatgcca ttcggccgct gatcccactg   300
```

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```
aagcaccagg tggaatatga tcagctgacc ccccggcgct ccaggaagct gaaggaggtg      360
cgtctggacc gtctgcaccc cgaaggcctc ggcctgagtg tgcgtggtgg cctggagttt      420
ggctgtgggc tcttcatctc ccacctcatc aaaggcggtc aggcagacag cgtcgggctc      480
caggtagggg acgagatcgt ccggatcaat ggatattcca tctcctcctg tacccatgag      540
gaggtcatca acctcattcg aaccaagaaa actgtgtcca tcaaagtgag acacatcggc      600
ctgatccccg tgaaaagctc tcctgatgag cccctcactt ggcagtatgt ggatcagttt      660
gtgtcggaat ctggggggcgt gcgaggcagc ctgggctccc ctggaaatcg ggaaaacaag      720
gagaagaagg tcttcatcag cctggtaggc tcccgaggcc ttggctgcag catttccagc      780
ggccccatcc agaagcctgg catctttatc agccatgtga acctggctc cctgtctgct      840
gaggtgggat tggagatagg ggaccagatt gtcgaagtca atggcgtcga cttctctaac      900
ctggatcaca aggaggctgt aaatgtgctg aaaaatagcc gcagcctgac catctccatt      960
gtagctgcag ctggccggga gctgttcatg acagaccggg agcggctggc agaggcgcgg     1020
cagcgtgagc tgcagcggca ggagcttctc atgcagaagc ggctggcgat ggagtccaac     1080
aagatcctcc aggagcagca ggagatggag cggcaaagga gaaagaaat tgcccagaag     1140
gcagcagagg aaaatgagag ataccggaag gagatggaac agattgtaga ggaggaagag     1200
aagtttaaga agcaatggga agaagactgg ggctcaaagg aacagctact cttgcctaaa     1260
accatcactg ctgaggtaca cccagtaccc cttcgcaagc caaagtatga tcaggagtg     1320
gaacctgagc tcgagcccgc agatgacctg gatggaggca cggaggagca gggagagcag     1380
gatttccgga atatgaggga aggctttgac ccctactcta tgttcacccc agagcagatc     1440
atggggaagg atgtccggct cctacgcatc aagaaggagg gatccttaga cctggccctg     1500
gaaggcggtg tggactcccc cattgggaag gtggtcgttt ctgctgtgta tgagcgggga     1560
gctgctgagc ggcatggtgg cattgtgaaa ggggacgaga tcatggcaat caacggcaag     1620
attgtgacag actacaccct ggctgaggct gacgctgccc tgcagaaggc ctggaatcag     1680
ggcgggggact ggatcgacct tgtggttgcc gtctgccccc caaaggagta tgacgatgag     1740
ctgaccttct tgctgaagtc caaaagggga aaccaaattc acgcgttagg aaacagtgag     1800
ctccggcccc acctcgtgaa cacaaagcct cggaccagcc ttgagagagg ccacatgaca     1860
cacaccagat ggcatccttg ggacctgaat ctatcaccca ggaatctcaa actccctttg     1920
gccctgaacc agggccagat aaggaacagc tcgggccact tttttgaagg ccaatgtgga     1980
ggaaagggag cagccagccg tttgggagaa gatctcaagg atccagactc tcattccttt     2040
cctctggccc agtgaatttg gtctctccca gctttggggg actccttcct tgaaccctaa     2100
taagacccca ctggagtctc tctctctcca tccctctcct ctgccctctg ctctaattgc     2160
tgccaggatt gtcactccaa accttactct gagctcatta ataaaataaa cagatttatt     2220
ttccagctta aaaaaa                                                     2236
```

<210> 551
<211> 652
<212> PRT
<213> Homo Sapiens

<400> 551

```
Met Asp Arg Lys Val Ala Arg Glu Phe Arg His Lys Val Asp Phe Leu
 1               5                  10                  15
Ile Glu Asn Asp Ala Glu Lys Asp Tyr Leu Tyr Asp Val Leu Arg Met
                20                  25                  30
Tyr His Gln Thr Met Asp Val Ala Val Leu Val Gly Asp Leu Lys Leu
            35                  40                  45
Val Ile Asn Glu Pro Ser Arg Leu Pro Leu Phe Asp Ala Ile Arg Pro
        50                  55                  60
Leu Ile Pro Leu Lys His Gln Val Glu Tyr Asp Gln Leu Thr Pro Arg
65                  70                  75                  80
Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu
                85                  90                  95
Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu
                100                 105                 110
Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu
```

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```
                115                    120                    125
Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser
        130                    135                    140
Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val
145                    150                    155                    160
Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro
                165                    170                    175
Asp Glu Pro Leu Thr Trp Gln Tyr Val Asp Gln Phe Val Ser Glu Ser
                180                    185                    190
Gly Gly Val Arg Gly Ser Leu Gly Ser Pro Gly Asn Arg Glu Asn Lys
                195                    200                    205
Glu Lys Lys Val Phe Ile Ser Leu Val Gly Ser Arg Gly Leu Gly Cys
        210                    215                    220
Ser Ile Ser Ser Gly Pro Ile Gln Lys Pro Gly Ile Phe Ile Ser His
225                    230                    235                    240
Val Lys Pro Gly Ser Leu Ser Ala Glu Val Gly Leu Glu Ile Gly Asp
                245                    250                    255
Gln Ile Val Glu Val Asn Gly Val Asp Phe Ser Asn Leu Asp His Lys
                260                    265                    270
Glu Ala Val Asn Val Leu Lys Asn Ser Arg Ser Leu Thr Ile Ser Ile
                275                    280                    285
Val Ala Ala Ala Gly Arg Glu Leu Phe Met Thr Asp Arg Glu Arg Leu
        290                    295                    300
Ala Glu Ala Arg Gln Arg Glu Leu Gln Arg Gln Glu Leu Leu Met Gln
305                    310                    315                    320
Lys Arg Leu Ala Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu
                325                    330                    335
Met Glu Arg Gln Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu
                340                    345                    350
Asn Glu Arg Tyr Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu
                355                    360                    365
Lys Phe Lys Lys Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu
        370                    375                    380
Leu Leu Pro Lys Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg
385                    390                    395                    400
Lys Pro Lys Tyr Asp Gln Gly Val Glu Pro Glu Leu Glu Pro Ala Asp
                405                    410                    415
Asp Leu Asp Gly Gly Thr Glu Glu Gln Gly Glu Gln Asp Phe Arg Lys
                420                    425                    430
Tyr Glu Glu Gly Phe Asp Pro Tyr Ser Met Phe Thr Pro Glu Gln Ile
                435                    440                    445
Met Gly Lys Asp Val Arg Leu Leu Arg Ile Lys Lys Glu Gly Ser Leu
        450                    455                    460
Asp Leu Ala Leu Glu Gly Gly Val Asp Ser Pro Ile Gly Lys Val Val
465                    470                    475                    480
Val Ser Ala Val Tyr Glu Arg Gly Ala Ala Glu Arg His Gly Gly Ile
                485                    490                    495
Val Lys Gly Asp Glu Ile Met Ala Ile Asn Gly Lys Ile Val Thr Asp
        500                    505                    510
Tyr Thr Leu Ala Glu Ala Asp Ala Ala Leu Gln Lys Ala Trp Asn Gln
        515                    520                    525
Gly Gly Asp Trp Ile Asp Leu Val Val Ala Val Cys Pro Pro Lys Glu
        530                    535                    540
Tyr Asp Asp Glu Leu Thr Phe Leu Leu Lys Ser Lys Arg Gly Asn Gln
545                    550                    555                    560
```

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```
Ile His Ala Leu Gly Asn Ser Glu Leu Arg Pro His Leu Val Asn Thr
                565             570             575
Lys Pro Arg Thr Ser Leu Glu Arg Gly His Met Thr His Thr Arg Trp
                580             585             590
His Pro Trp Asp Leu Asn Leu Ser Pro Arg Asn Leu Lys Leu Pro Leu
                595             600             605
Ala Leu Asn Gln Gly Gln Ile Arg Asn Ser Ser Gly His Phe Phe Glu
            610             615             620
Gly Gln Cys Gly Gly Lys Gly Ala Ala Ser Arg Leu Gly Glu Asp Leu
625             630             635             640
Lys Asp Pro Asp Ser His Ser Phe Pro Leu Ala Gln
                645             650
```

```
<210> 552
<211> 2162
<212> DNA
<213> Homo Sapiens

<400> 552
cctggcccgg tcgcggtcgc ggctctttcc agctcctggc agccgggcac ccgaaggaac      60
gggtcgtgca acgacgcagc tggacctggc ccagccatgg accgaaaagt ggcccgagaa     120
ttccggcata aggtggattt tctgattgaa aatgatgcag agaaggacta tctctatgat     180
gtgctgcgaa tgtaccacca gaccatggac gtggccgtgc tcgtgggaga cctgaagctg     240
gtcatcaatg aacccagccg tctgcctctg tttgatgcca ttcggccgct gatcccactg     300
aagcaccagg tggaatatga tcagctgacc ccccggcgct ccaggaagct gaaggaggtg     360
cgtctggacc gtctgcaccc cgaaggcctc ggcctgagtg tgcgtggtgg cctggagttt     420
ggctgtgggc tcttcatctc ccacctcatc aaaggcggtc aggcagacag cgtcgggctc     480
caggtagggg acgagatcgt ccggatcaat ggatattcca tctcctcctg tacccatgag     540
gaggtcatca acctcattcg aaccaagaaa actgtgtcca tcaaagtgag acacatcggc     600
ctgatccccg tgaaaagctc tcctgatgag cccctcactt ggcagtatgt ggatcagttt     660
gtgtcggaat ctggggggcgt gcgaggcagc ctgggctccc ctggaaatcg ggaaaacaag     720
gagaagaagg tcttcatcag cctggtaggc tcccgaggcc ttggctgcag catttccagc     780
ggccccatcc agaagcctgg catctttatc agccatgtga acctggctc cctgtctgct     840
gaggtgggat ggagatagg ggaccagatt gtcgaagtca atggcgtcga cttctctaac     900
ctggatcaca aggaggctgt aaatgtgctg aaaaatagcc gcagcctgac catctccatt     960
gtagctgcag ctggccggga gctgttcatg acagaccggg agcggctggc agaggcgcgg    1020
cagcgtgagc tgcagcggca ggagcttctc atgcagaagc ggctggcgat ggagtccaac    1080
aagatcctcc aggagcagca ggagatggag cggcaaagga gaaagaaat tgcccagaag    1140
gcagcagagg aaaatgagag ataccggaag gagatggaac agattgtaga ggaggaagag    1200
aagtttaaga gcaatggga agaagactgg ggctcaaagg aacagctact cttgcctaaa    1260
accatcactg ctgaggtaca cccagtaccc cttcgcaagc caaagtgatt tccggaaata    1320
tgaggaaggc tttgacccct actctatgtt caccccagag cagatcatgg ggaaggatgt    1380
ccggctccta cgcatcaaga aggagggatc cttagacctg gccctggaag gcggtgtgga    1440
ctccccccatt gggaaggtgg tcgtttctgc tgtgtatgag cggggagctg ctgagcggca    1500
tggtggcatt gtgaaagggg acgagatcat ggcaatcaac ggcaagattg tgacagacta    1560
caccctggct gaggctgacg ctgccctgca gaaggcctgg aatcagggcg gggactggat    1620
cgaccttgtg gttgccgtct gcccccccaaa ggagtatgac gatgagctga ccttcttgct    1680
gaagtccaaa aggggaaacc aaattcacgc gttaggaaac agtgagctcc ggccccacct    1740
cgtgaacaca aagcctcgga ccagccttga gagggccac atgacacaca ccagatggca    1800
tccttgggac ctgaatctat cacccaggaa tctcaaactc cctttggccc tgaaccaggg    1860
ccagataagg aacagctcgg gccactttt tgaaggccaa gtggaggaa agggagcagc    1920
cagccgtttg ggagaagatc tcaaggatcc agactctcat tcctttcctc tggcccagtg    1980
aatttggtct ctcccagctt ggggggactc cttccttgaa ccctaataag accccactgg    2040
agtctctctc tctccatccc tctcctctgc cctctgctct aattgctgcc aggattgtca    2100
ctccaaacct tactctgagc tcattaataa aataaacaga tttatttcc agcttaaaaa    2160
```

```
        <210> 553
        <211> 403
        <212> PRT
        <213> Homo Sapiens


        <400> 553
Met Asp Arg Lys Val Ala Arg Glu Phe Arg His Lys Val Asp Phe Leu
1               5                   10                  15
Ile Glu Asn Asp Ala Glu Lys Asp Tyr Leu Tyr Asp Val Leu Arg Met
            20                  25                  30
Tyr His Gln Thr Met Asp Val Ala Val Leu Val Gly Asp Leu Lys Leu
        35                  40                  45
Val Ile Asn Glu Pro Ser Arg Leu Pro Leu Phe Asp Ala Ile Arg Pro
    50                  55                  60
Leu Ile Pro Leu Lys His Gln Val Glu Tyr Asp Gln Leu Thr Pro Arg
65                  70                  75                  80
Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu
                85                  90                  95
Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu
            100                 105                 110
Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu
            115                 120                 125
Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser
    130                 135                 140
Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val
145                 150                 155                 160
Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro
                165                 170                 175
Asp Glu Pro Leu Thr Trp Gln Tyr Val Asp Gln Phe Val Ser Glu Ser
            180                 185                 190
Gly Gly Val Arg Gly Ser Leu Gly Ser Pro Gly Asn Arg Glu Asn Lys
            195                 200                 205
Glu Lys Lys Val Phe Ile Ser Leu Val Gly Ser Arg Gly Leu Gly Cys
    210                 215                 220
Ser Ile Ser Ser Gly Pro Ile Gln Lys Pro Gly Ile Phe Ile Ser His
225                 230                 235                 240
Val Lys Pro Gly Ser Leu Ser Ala Glu Val Gly Leu Glu Ile Gly Asp
                245                 250                 255
Gln Ile Val Glu Val Asn Gly Val Asp Phe Ser Asn Leu Asp His Lys
            260                 265                 270
Glu Ala Val Asn Val Leu Lys Asn Ser Arg Ser Leu Thr Ile Ser Ile
            275                 280                 285
Val Ala Ala Ala Gly Arg Glu Leu Phe Met Thr Asp Arg Glu Arg Leu
    290                 295                 300
Ala Glu Ala Arg Gln Arg Glu Leu Gln Arg Gln Glu Leu Leu Met Gln
305                 310                 315                 320
Lys Arg Leu Ala Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu
                325                 330                 335
Met Glu Arg Gln Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu
            340                 345                 350
Asn Glu Arg Tyr Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu
            355                 360                 365
Lys Phe Lys Lys Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu
```

```
                370                    375                    380
Leu Leu Pro Lys Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg
385                    390                    395                    400
Lys Pro Lys
```

```
        <210> 554
        <211> 1789
        <212> DNA
        <213> Homo Sapiens

        <400> 554
        cttctggatg catccgagaa gctaaaactt acttatgagg aaaagtgtga aattgaggaa      60
        tcccaattga agtttttgag gaacgactta gctgaatatc agagaacttg tgaagatctt     120
        aaagagcaac taaagcataa agaatttctt ctggctgcta atacttgtaa ccgtgttggt     180
        ggtctttgtt tgaaatgtgc tcagcatgaa gctgttcttt cccaaaccca tactaatgtt     240
        catatgcaga ccatcgaaag actggttaaa gaaagagatg acttgatgtc tgcactagtt     300
        tccgtaagga gcagcttggc agatacgcag caaagagaag caagtgctta tgaacaggtg     360
        aaacaagttt tgcaaatatc tgaggaagcc aattttgaaa aaaccaaggc tttaatccag     420
        tgtgaccagt tgaggaagga gctggagagg caggcggagc gacttgaaaa agaacttgca     480
        tctcagcaag agaaaagggc cattgagaaa gacatgatga aaaaggaaat aacgaaagaa     540
        agggagtaca tgggatcaaa gatgttgatc ttgtctcaga atattgccca actggaggcc     600
        caggtggaaa aggttacaaa ggaaaagatt tcagctatta atcaactgga ggaaattcaa     660
        agccagctgg cttctcggga aatggatgtc acaaaggtgt gtggagaaat gcgctatcag     720
        ctgaataaaa ccaacatgga gaaggatgag gcagaaaagg agcacagaga gttcagagca     780
        aaaactaaca gggatcttga aattaaagat caggaaatag agaaattgag aatagaactg     840
        gatgaaagca acaacactt ggaacaggag cagcagaagg cagccctggc cagagaggag     900
        tgcctgagac taacagaact gctgggcgaa tctgagcacc aactgcacct caccagacag     960
        gaaaaagata gcattcagca gagctttagc aaggaagcaa aggcccaagc ccttcaggcc    1020
        cagcaaagag agcaggagct gacacagaag atacagcaaa tggaagccca gcatgacaaa    1080
        actgaaaatg aacagtattt gttgctgacc tcccagaata catttttgac aaagttaaag    1140
        gaagaatgct gtacattagc caagaaactg aacaaatct ctcaaaaaac cagatctgaa    1200
        atagctcaac tcagtcaaga aaaaaggtat acatatgata aattgggaaa gttacagaga    1260
        agaaatgaag aattggagga acagtgtgtc cagcatggga gagtacatga cgatgaag    1320
        caaaggctaa ggcagctgga taagcacagc caggccacag cccagcagct ggtgcagctc    1380
        ctcagcaagc agaaccagct tctcctggag aggcagagcc tgtcggaaga ggtggaccgg    1440
        ctgcggaccc agttacccag catgccacaa tctgattgct gacctggatg aacagagtg    1500
        aaataaatga attacaaaga gatatttaca ttcatctggt ttagacttaa tatgccacaa    1560
        cgcaccacga ccttcccagg gtgacaccgc ctcagcctgc agtggggctg gtcctcatca    1620
        acgcgggcgc tgtccccgca cgcagtcggg ctggagctgg agtctgactc tagctgagca    1680
        gactcctggt gtatgttttc agaaatggct tgaagttatg tgtttaaatc tgctcattcg    1740
        tatgctaggt tatacatatg attttcaata aatgaacttt ttaaagaaa                1789
```

```
        <210> 555
        <211> 493
        <212> PRT
        <213> Homo Sapiens

        <400> 555
Leu Leu Asp Ala Ser Glu Lys Leu Lys Leu Thr Tyr Glu Glu Lys Cys
1               5                   10                  15
Glu Ile Glu Glu Ser Gln Leu Lys Phe Leu Arg Asn Asp Leu Ala Glu
            20                  25                  30
Tyr Gln Arg Thr Cys Glu Asp Leu Lys Glu Gln Leu Lys His Lys Glu
        35                  40                  45
```

```
Phe Leu Leu Ala Ala Asn Thr Cys Asn Arg Val Gly Gly Leu Cys Leu
    50              55              60
Lys Cys Ala Gln His Glu Ala Val Leu Ser Gln Thr His Thr Asn Val
65              70              75              80
His Met Gln Thr Ile Glu Arg Leu Val Lys Glu Arg Asp Asp Leu Met
            85              90              95
Ser Ala Leu Val Ser Val Arg Ser Ser Leu Ala Asp Thr Gln Gln Arg
            100             105             110
Glu Ala Ser Ala Tyr Glu Gln Val Lys Gln Val Leu Gln Ile Ser Glu
        115             120             125
Glu Ala Asn Phe Glu Lys Thr Lys Ala Leu Ile Gln Cys Asp Gln Leu
        130             135             140
Arg Lys Glu Leu Glu Arg Gln Ala Glu Arg Leu Glu Lys Glu Leu Ala
145             150             155             160
Ser Gln Gln Glu Lys Arg Ala Ile Glu Lys Asp Met Met Lys Lys Glu
            165             170             175
Ile Thr Lys Glu Arg Glu Tyr Met Gly Ser Lys Met Leu Ile Leu Ser
            180             185             190
Gln Asn Ile Ala Gln Leu Glu Ala Gln Val Glu Lys Val Thr Lys Glu
        195             200             205
Lys Ile Ser Ala Ile Asn Gln Leu Glu Glu Ile Gln Ser Gln Leu Ala
    210             215             220
Ser Arg Glu Met Asp Val Thr Lys Val Cys Gly Glu Met Arg Tyr Gln
225             230             235             240
Leu Asn Lys Thr Asn Met Glu Lys Asp Glu Ala Glu Lys Glu His Arg
            245             250             255
Glu Phe Arg Ala Lys Thr Asn Arg Asp Leu Glu Ile Lys Asp Gln Glu
            260             265             270
Ile Glu Lys Leu Arg Ile Glu Leu Asp Glu Ser Lys Gln His Leu Glu
        275             280             285
Gln Glu Gln Gln Lys Ala Ala Leu Ala Arg Glu Glu Cys Leu Arg Leu
    290             295             300
Thr Glu Leu Leu Gly Glu Ser Glu His Gln Leu His Leu Thr Arg Gln
305             310             315             320
Glu Lys Asp Ser Ile Gln Gln Ser Phe Ser Lys Glu Ala Lys Ala Gln
            325             330             335
Ala Leu Gln Ala Gln Gln Arg Glu Gln Glu Leu Thr Gln Lys Ile Gln
            340             345             350
Gln Met Glu Ala Gln His Asp Lys Thr Glu Asn Glu Gln Tyr Leu Leu
        355             360             365
Leu Thr Ser Gln Asn Thr Phe Leu Thr Lys Leu Lys Glu Glu Cys Cys
    370             375             380
Thr Leu Ala Lys Lys Leu Glu Gln Ile Ser Gln Lys Thr Arg Ser Glu
385             390             395             400
Ile Ala Gln Leu Ser Gln Glu Lys Arg Tyr Thr Tyr Asp Lys Leu Gly
            405             410             415
Lys Leu Gln Arg Arg Asn Glu Glu Leu Glu Glu Gln Cys Val Gln His
            420             425             430
Gly Arg Val His Glu Thr Met Lys Gln Arg Leu Arg Gln Leu Asp Lys
        435             440             445
His Ser Gln Ala Thr Ala Gln Gln Leu Val Gln Leu Leu Ser Lys Gln
    450             455             460
Asn Gln Leu Leu Leu Glu Arg Gln Ser Leu Ser Glu Glu Val Asp Arg
465             470             475             480
Leu Arg Thr Gln Leu Pro Ser Met Pro Gln Ser Asp Cys
```

-289-

485 490

<210> 556
<211> 1306
<212> DNA
<213> Homo Sapiens

<400> 556

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aaaaatagcc gcagcctgac catctccatt gtagctgcag ctggccggga gctgttcatg      60
acagaccggg agcggctggc agaggcgcgg cagcgtgagc tgcagcggca ggagcttctc     120
atgcagaagc ggctggcgat ggagtccaac aagatcctcc aggagcagca ggagatggag     180
cggcaaagga gaaaagaaat tgcccagaag gcagcagagg aaaatgagag ataccggaag     240
gagatggaac agattgtaga ggaggaagag aagtttaaga agcaatggga agaagactgg     300
ggctcaaagg aacagctact cttgcctaaa accatcactg ctgaggtaca cccagtaccc     360
cttcgcaagc caaagtatga tcagggagtg gaacctgagc tcgagcccgc agatgacctg     420
gatggaggca cggaggagca gggagagcag gatttccgga aatatgagga aggctttgac     480
ccctactcta tgttcacccc agagcagatc atggggaagg atgtccggct cctacgcatc     540
aagaaggagg gatccttaga cctggccctg gaaggcggtg tggactcccc cattgggaag     600
gtggtcgttt ctgctgtgta tgagcgggga gctgctgagc ggcatggtgg cattgtgaaa     660
ggggacgaga tcatggcaat caacggcaag attgtgacag actacaccct ggctgaggct     720
gacgctgccc tgcagaaggc ctggaatcag ggcggggact ggatcgacct tgtggttgcc     780
gtctgccccc caaaggagta tgacgatgag ctgaccttct tgctgaagtc caaaagggga     840
aaccaaattc acgcgttagg aaacagtgag ctccggcccc acctcgtgaa cacaaagcct     900
cggaccagcc ttgagagagg ccacatgaca cacaccagat ggcatccttg ggacctgaat     960
ctatcaccca ggaatctcaa actccctttg gccctgaacc agggccagat aaggaacagc    1020
tcgggccact ttttgaagg ccaatgtgga ggaaagggag cagccagccg tttgggagaa    1080
gatctcaagg atccagactc tcattccttt cctctggccc agtgaatttg gtctctccca    1140
gctttggggg actccttcct tgaaccctaa taagacccca ctggagtctc tctctctcca    1200
tccctctcct ctgccctctg ctctaattgc tgccaggatt gtcactccaa accttactct    1260
gagctcatta ataaaataaa cagatttatt ttccagctta aaaaaa                   1306
```

<210> 557
<211> 328
<212> PRT
<213> Homo Sapiens
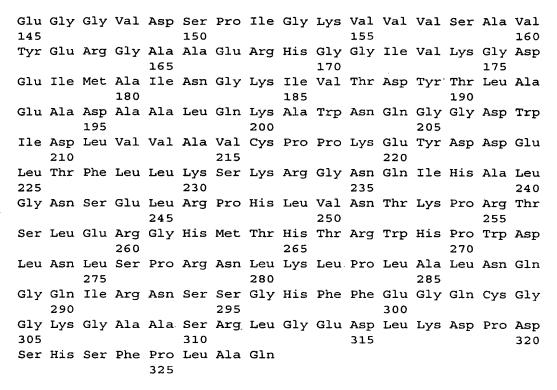
<400> 557

```
Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu Met Glu Arg Gln
1               5                   10                  15
Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu Asn Glu Arg Tyr
            20                  25                  30
Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu Lys Phe Lys Lys
        35                  40                  45
Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu Leu Leu Pro Lys
    50                  55                  60
Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg Lys Pro Lys Tyr
65                  70                  75                  80
Asp Gln Gly Val Glu Pro Glu Leu Glu Pro Ala Asp Asp Leu Asp Gly
                85                  90                  95
Gly Thr Glu Glu Gln Gly Glu Gln Asp Phe Arg Lys Tyr Glu Glu Gly
            100                 105                 110
Phe Asp Pro Tyr Ser Met Phe Thr Pro Glu Gln Ile Met Gly Lys Asp
            115                 120                 125
Val Arg Leu Leu Arg Ile Lys Lys Glu Gly Ser Leu Asp Leu Ala Leu
        130                 135                 140
```

```
Glu Gly Gly Val Asp Ser Pro Ile Gly Lys Val Val Val Ser Ala Val
145             150             155             160
Tyr Glu Arg Gly Ala Ala Glu Arg His Gly Gly Ile Val Lys Gly Asp
                165             170             175
Glu Ile Met Ala Ile Asn Gly Lys Ile Val Thr Asp Tyr Thr Leu Ala
                180             185             190
Glu Ala Asp Ala Ala Leu Gln Lys Ala Trp Asn Gln Gly Gly Asp Trp
                195             200             205
Ile Asp Leu Val Val Ala Val Cys Pro Pro Lys Glu Tyr Asp Asp Glu
        210             215             220
Leu Thr Phe Leu Leu Lys Ser Lys Arg Gly Asn Gln Ile His Ala Leu
225             230             235             240
Gly Asn Ser Glu Leu Arg Pro His Leu Val Asn Thr Lys Pro Arg Thr
                245             250             255
Ser Leu Glu Arg Gly His Met Thr His Thr Arg Trp His Pro Trp Asp
                260             265             270
Leu Asn Leu Ser Pro Arg Asn Leu Lys Leu Pro Leu Ala Leu Asn Gln
                275             280             285
Gly Gln Ile Arg Asn Ser Ser Gly His Phe Phe Glu Gly Gln Cys Gly
        290             295             300
Gly Lys Gly Ala Ala Ser Arg Leu Gly Glu Asp Leu Lys Asp Pro Asp
305             310             315             320
Ser His Ser Phe Pro Leu Ala Gln
                325
```

```
<210> 558
<211> 2289
<212> DNA
<213> Homo Sapiens

<400> 558
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ttccggcata aggtggattt tctgattgaa aatgatgcag agaaggacta tctctatgat   180
gtgctgcgaa tgtaccacca gaccatggac gtggccgtgc tcgtgggaga cctgaagctg   240
gtcatcaatg aacccagccg tctgcctctg tttgatgcca ttcggccgct gatcccactg   300
aagcaccagg tggaatatga tcagctgacc ccccggcgct ccaggaagct gaaggaggtg   360
cgtctggacc gtctgcaccc cgaaggcctc ggcctgagtg tgcgtggtgg cctggagttt   420
ggctgtgggc tcttcatctc ccacctcatc aaaggcggtc aggcagacag cgtcgggctc   480
caggtagggg acgagatcgt ccggatcaat ggatattcca tctcctcctg tacccatgag   540
gaggtcatca acctcattcg aaccaagaaa actgtgtcca tcaaagtgag acacatcggc   600
ctgatccccg tgaaaagctc tcctgatgag cccctcactt ggcagtatgt ggatcagttt   660
gtgtcggaat ctggggggcgt gcgaggcagc ctgggctccc ctggaaatcg ggaaaacaag   720
gagaagaagg tcttcatcag cctggtaggc tcccgaggcc ttggctgcag catttccagc   780
ggccccatcc agaagcctgg catctttatc agccatgtga acctggctc cctgtctgct   840
gaggtgggat tggagatagg ggaccagatt gtcgaagtca tggcgtcga cttctctaac   900
ctggatcaca ggaggctgt aaatgtgctg aaaaatagcc gcagcctgac catctccatt   960
gtagctgcag ctggccggga gctgttcatg acagaccggg agcggctggc agaggcgcgg   1020
cagcgtgagc tgcagcggca ggagcttctc atgcagaagc ggctggcgat ggagtccaac   1080
aagatcctcc aggagcagca ggagatggag cggcaaagga gaaagaaat tgcccagaag   1140
gcagcagagg aaaatgagag ataccggaag gagatggaac agattgtaga ggaggaagag   1200
aagtttaaga gcaatggga agaagactgg ggctcaaagg aacagctact cttgcctaaa   1260
accatcactg ctgaggtaca cccagtaccc cttcgcaagc caaagtatga tcagggagtg   1320
gaacctgagc tcgagcccgc agatgacctg gatggaggca cggaggagca gggagagcag   1380
ccacaggaga tgttgaagag gatggtggtt tatcaagaca gcattcaaga caagatttcc   1440
```

●　　　●

```
ggaaatatga ggaaggcttt gaccccract ctatgttcac cccagagcag atcatgggga   1500
aggatgtccg gctcctacgc atcaagaagg agggatcctt agacctggcc ctggaaggcg   1560
gtgtggactc ccccattggg aaggtggtcg tttctgctgt gtatgagcgg ggagctgctg   1620
agcggcatgg tggcattgtg aaaggggacg agatcatggc aatcaacggc aagattgtga   1680
cagactacac cctggctgag gctgacgctg ccctgcagaa ggcctggaat cagggcgggg   1740
actggatcga ccttgtggtt gccgtctgcc ccccaaagga gtatgacgat gagctgacct   1800
tcttgctgaa gtccaaaagg ggaaaccaaa ttcacgcgtt aggaaacagt gagctccggc   1860
cccacctcgt gaacacaaag cctcggacca gccttgagag aggccacatg acacacacca   1920
gatggcatcc ttgggacctg aatctatcac ccaggaatct caaactccct ttggccctga   1980
accagggcca gataaggaac agctcgggcc actttttttga aggccaatgt ggaggaaagg   2040
gagcagccag ccgtttggga gaagatctca aggatccaga ctctcattcc tttcctctgg   2100
cccagtgaat ttggtctctc ccagctttgg gggactcctt ccttgaaccc taataagacc   2160
ccactggagt ctctctctct ccatccctct cctctgccct ctgctctaat tgctgccagg   2220
attgtcactc caaaccttac tctgagctca ttaataaaat aaacagattt attttccagc   2280
ttaaaaaaa                                                           2289
```

```
        <210> 559
        <211> 481
        <212> PRT
        <213> Homo Sapiens


        <400> 559
Met Asp Arg Lys Val Ala Arg Glu Phe Arg His Lys Val Asp Phe Leu
1               5                   10                  15
Ile Glu Asn Asp Ala Glu Lys Asp Tyr Leu Tyr Asp Val Leu Arg Met
            20                  25                  30
Tyr His Gln Thr Met Asp Val Ala Val Leu Val Gly Asp Leu Lys Leu
        35                  40                  45
Val Ile Asn Glu Pro Ser Arg Leu Pro Leu Phe Asp Ala Ile Arg Pro
    50                  55                  60
Leu Ile Pro Leu Lys His Gln Val Glu Tyr Asp Gln Leu Thr Pro Arg
65                  70                  75                  80
Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu
                85                  90                  95
Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu
            100                 105                 110
Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu
        115                 120                 125
Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser
    130                 135                 140
Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val
145                 150                 155                 160
Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro
                165                 170                 175
Asp Glu Pro Leu Thr Trp Gln Tyr Val Asp Gln Phe Val Ser Glu Ser
            180                 185                 190
Gly Gly Val Arg Gly Ser Leu Gly Ser Pro Gly Asn Arg Glu Asn Lys
        195                 200                 205
Glu Lys Lys Val Phe Ile Ser Leu Val Gly Ser Arg Gly Leu Gly Cys
    210                 215                 220
Ser Ile Ser Ser Gly Pro Ile Gln Lys Pro Gly Ile Phe Ile Ser His
225                 230                 235                 240
Val Lys Pro Gly Ser Leu Ser Ala Glu Val Gly Leu Glu Ile Gly Asp
                245                 250                 255
Gln Ile Val Glu Val Asn Gly Val Asp Phe Ser Asn Leu Asp His Lys
```

```
                    260                 265                 270
Glu Ala Val Asn Val Leu Lys Asn Ser Arg Ser Leu Thr Ile Ser Ile
          275                 280                 285
Val Ala Ala Ala Gly Arg Glu Leu Phe Met Thr Asp Arg Glu Arg Leu
      290                 295                 300
Ala Glu Ala Arg Gln Arg Glu Leu Gln Arg Gln Glu Leu Leu Met Gln
305                 310                 315                 320
Lys Arg Leu Ala Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu
                325                 330                 335
Met Glu Arg Gln Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu
          340                 345                 350
Asn Glu Arg Tyr Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu
      355                 360                 365
Lys Phe Lys Lys Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu
      370                 375                 380
Leu Leu Pro Lys Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg
385                 390                 395                 400
Lys Pro Lys Tyr Asp Gln Gly Val Glu Pro Glu Leu Glu Pro Ala Asp
              405                 410                 415
Asp Leu Asp Gly Gly Thr Glu Glu Gln Gly Glu Gln Pro Gln Glu Met
          420                 425                 430
Leu Lys Arg Met Val Val Tyr Gln Asp Ser Ile Gln Asp Lys Ile Ser
      435                 440                 445
Gly Asn Met Arg Lys Ala Leu Thr Pro Thr Leu Cys Ser Pro Gln Ser
      450                 455                 460
Arg Ser Trp Gly Arg Met Ser Gly Ser Tyr Ala Ser Arg Arg Arg Asp
465                 470                 475                 480
Pro
```

```
       <210> 560
       <211> 2409
       <212> DNA
       <213> Homo Sapiens

       <400> 560
cctggccccgg tcgcggtcgc ggctctttcc agctcctggc agccgggcac ccgaaggaac      60
gggtcgtgca acgacgcagc tggacctggc ccagccatgg accgaaaagt ggccccgagaa     120
ttccggcata aggtggattt tctgattgaa aatgatgcag agaaggacta tctctatgat     180
gtgctgcgaa tgtaccacca gaccatggac gtggccgtgc tcgtgggaga cctgaagctg     240
gtcatcaatg aacccagccg tctgcctctg tttgatgcca ttcggccgct gatcccactg     300
aagcaccagg tggaatatga tcagctgacc ccccggcgct ccaggaagct gaaggaggtg     360
cgtctggacc gtctgcaccc cgaaggcctc ggcctgagtg tgcgtggtgg cctggagttt     420
ggctgtgggc tcttcatctc ccacctcatc aaaggcggtc aggcagacag cgtcgggctc     480
caggtagggg acgagatcgt ccggatcaat ggatattcca tctcctcctg tacccatgag     540
gaggtcatca acctcattcg aaccaagaaa actgtgtcca tcaaagtgag acacatcggc     600
ctgatccccg tgaaaagctc tcctgatgag cccctcactt ggcagtatgt ggatcagttt     660
gtgtcggaat ctggggggcgt gcgaggcagc ctgggctccc ctggaaatcg ggaaaacaag     720
gagaagaagg tcttcatcag cctggtaggc tcccgaggcc ttggctgcag catttccagc     780
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gaggtgggat tggagatagg ggaccagatt gtcgaagtca atggcgtcga cttctctaac     900
ctggatcaca aggaggctgt aaatgtgctg aaaaatagcc gcagcctgac catctccatt     960
gtagctgcag ctggccggga gctgttcatg acagaccggg agcggctggc agaggcgcgg    1020
cagcgtgagc tgcagcggca ggagcttctc atgcagaagc ggctggcgat ggagtccaac    1080
aagatcctcc aggagcagca ggagatggag cggcaaagga gaaaagaaat tgcccagaag    1140
```

```
gcagcagagg aaaatgagag ataccggaag gagatggaac agattgtaga ggaggaagag    1200
aagtttaaga agcaatggga agaagactgg ggctcaaagg aacagctact cttgcctaaa    1260
accatcactg ctgaggtaca cccagtaccc cttcgcaagc caaagtatga tcagggagtg    1320
gaacctgagc tcgagcccgc agatgacctg gatggaggca cggaggagca gggagagcag    1380
acattttgcc caagcccaca gcctccacga ggccctggcg tgtccaccat ctccaaacct    1440
gtcatggtcc accaggagcc caatttcatc tacaggccag ctgtgaaatc tgaagttctg    1500
ccacaggaga tgttgaagag gatggtggtt tatcaagaca gcattcaaga caagatttcc    1560
ggaaatatga ggaaggcttt gacccctact ctatgttcac cccagagcag atcatgggga    1620
aggatgtccg gctcctacgc atcaagaagg agggatcctt agacctggcc ctggaaggcg    1680
gtgtggactc ccccattggg aaggtggtcg tttctgctgt gtatgagcgg ggagctgctg    1740
agcggcatgg tggcattgtg aaaggggacg agatcatggc aatcaacggc aagattgtga    1800
cagactacac cctggctgag gctgacgctg ccctgcagaa ggcctggaat cagggcgggg    1860
actggatcga ccttgtggtt gccgtctgcc ccccaaagga gtatgacgat gagctgacct    1920
tcttgctgaa gtccaaaagg ggaaaccaaa ttcacgcgtt aggaaacagt gagctccggc·   1980
cccacctcgt gaacacaaag cctcggacca gccttgagag aggccacatg acacacacca    2040
gatggcatcc ttgggacctg aatctatcac ccaggaatct caaactccct ttggccctga    2100
accagggcca gataaggaac agctcgggcc acttttttga aggccaatgt ggaggaaagg    2160
gagcagccag ccgtttggga gaagatctca aggatccaga ctctcattcc tttcctctgg    2220
cccagtgaat ttggtctctc ccagctttgg gggactcctt ccttgaaccc taataagacc    2280
ccactggagt ctctctctct ccatccctct cctctgccct ctgctctaat tgctgccagg    2340
attgtcactc caaaccttac tctgagctca ttaataaaat aaacagattt attttccagc    2400
ttaaaaaaa                                                            2409
```

```
<210> 561·
<211> 521
<212> PRT
<213> Homo Sapiens

<400> 561
Met Asp Arg Lys Val Ala Arg Glu Phe Arg His Lys Val Asp Phe Leu
1               5                  10                 15
Ile Glu Asn Asp Ala Glu Lys Asp Tyr Leu Tyr Asp Val Leu Arg Met
                20                 25                 30
Tyr His Gln Thr Met Asp Val Ala Val Leu Val Gly Asp Leu Lys Leu
        35                 40                 45
Val Ile Asn Glu Pro Ser Arg Leu Pro Leu Phe Asp Ala Ile Arg Pro
    50                 55                 60
Leu Ile Pro Leu Lys His Gln Val Glu Tyr Asp Gln Leu Thr Pro Arg
65                 70                 75                 80
Arg Ser Arg Lys Leu Lys Glu Val Arg Leu Asp Arg Leu His Pro Glu
                85                 90                 95
Gly Leu Gly Leu Ser Val Arg Gly Gly Leu Glu Phe Gly Cys Gly Leu
                100                105                110
Phe Ile Ser His Leu Ile Lys Gly Gly Gln Ala Asp Ser Val Gly Leu
        115                120                125
Gln Val Gly Asp Glu Ile Val Arg Ile Asn Gly Tyr Ser Ile Ser Ser
    130                135                140
Cys Thr His Glu Glu Val Ile Asn Leu Ile Arg Thr Lys Lys Thr Val
145                150                155                160
Ser Ile Lys Val Arg His Ile Gly Leu Ile Pro Val Lys Ser Ser Pro
                165                170                175
Asp Glu Pro Leu Thr Trp Gln Tyr Val Asp Gln Phe Val Ser Glu Ser
                180                185                190
Gly Gly Val Arg Gly Ser Leu Gly Ser Pro Gly Asn Arg Glu Asn Lys
                195                200                205
```

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```
Glu Lys Lys Val Phe Ile Ser Leu Val Gly Ser Arg Gly Leu Gly Cys
    210                 215                 220
Ser Ile Ser Ser Gly Pro Ile Gln Lys Pro Gly Ile Phe Ile Ser His
225                 230                 235                 240
Val Lys Pro Gly Ser Leu Ser Ala Glu Val Gly Leu Glu Ile Gly Asp
                245                 250                 255
Gln Ile Val Glu Val Asn Gly Val Asp Phe Ser Asn Leu Asp His Lys
                260                 265                 270
Glu Ala Val Asn Val Leu Lys Asn Ser Arg Ser Leu Thr Ile Ser Ile
    275                 280                 285
Val Ala Ala Ala Gly Arg Glu Leu Phe Met Thr Asp Arg Glu Arg Leu
    290                 295                 300
Ala Glu Ala Arg Gln Arg Glu Leu Gln Arg Gln Glu Leu Leu Met Gln
305                 310                 315                 320
Lys Arg Leu Ala Met Glu Ser Asn Lys Ile Leu Gln Glu Gln Gln Glu
                325                 330                 335
Met Glu Arg Gln Arg Arg Lys Glu Ile Ala Gln Lys Ala Ala Glu Glu
                340                 345                 350
Asn Glu Arg Tyr Arg Lys Glu Met Glu Gln Ile Val Glu Glu Glu Glu
    355                 360                 365
Lys Phe Lys Lys Gln Trp Glu Glu Asp Trp Gly Ser Lys Glu Gln Leu
370                 375                 380
Leu Leu Pro Lys Thr Ile Thr Ala Glu Val His Pro Val Pro Leu Arg
385                 390                 395                 400
Lys Pro Lys Tyr Asp Gln Gly Val Glu Pro Glu Leu Glu Pro Ala Asp
                405                 410                 415
Asp Leu Asp Gly Gly Thr Glu Glu Gln Gly Glu Gln Thr Phe Cys Pro
                420                 425                 430
Ser Pro Gln Pro Pro Arg Gly Pro Gly Val Ser Thr Ile Ser Lys Pro
    435                 440                 445
Val Met Val His Gln Glu Pro Asn Phe Ile Tyr Arg Pro Ala Val Lys
    450                 455                 460
Ser Glu Val Leu Pro Gln Glu Met Leu Lys Arg Met Val Val Tyr Gln
465                 470                 475                 480
Asp Ser Ile Gln Asp Lys Ile Ser Gly Asn Met Arg Lys Ala Leu Thr
                485                 490                 495
Pro Thr Leu Cys Ser Pro Gln Ser Arg Ser Trp Gly Arg Met Ser Gly
                500                 505                 510
Ser Tyr Ala Ser Arg Arg Arg Asp Pro
    515                 520
```

```
<210> 562
<211> 1445
<212> DNA
<213> Homo Sapiens

<400> 562
ctccggcagg gagtcctagc gcagactttg cggttcatgg agagtctctg ggagacaggc    60
acctgcggac gctgcagata agttacgacg cactgaaaga tgaaaattct aagctgagaa   120
gaaagctgaa tgaggttcag agcttctctg aagctcaaac agaaatggtg aggacgcttg   180
agcggaagtt agaagcaaaa atgatcaagg aggaaagcga ctaccacgac ctggagtcgg   240
tggttcagca ggtggagcag aacctggagc tgatgaccaa acgggctgta aaggcagaaa   300
accacgtcgt gaaactaaaa caggaaatca gtttgctcca ggcgcaggtc tccaacttcc   360
agcgagagaa tgaagccctg cggtgcggcc agggtgccag cctgaccgtg gtgaagcaga   420
acgccgacgt ggccctgcag aacctccggg tggtcatgaa cagtgcacag gcttccatca   480
```

●

●

```
agcaactggt ttccggagct gagacactga atcttgttgc cgaaatcctt aaatctatag    540
acagaatttc tgaagttaaa gacgaggagg aagactcttg aggacccctg ggtgttctca    600
gcatgaagct ccgtgtatac cctgaggtca ccaccgctcg atctaaatgt gcagttgtgt    660
ccttaaatat gcagtcttca cccagagtaa agtgttgatc gcaagagtcc agtgtcgtgc    720
cctcagccag ttcttggcca ccacaatggg agcagccctg ccgagttgt ctctgtggtt     780
tctatgcagc ccttcttggc gaaattcctg cgatcttata gattctaatg agctcttgga    840
agacattgtc ataaaagcca gtgattttaa gaaaaagagt ggttctggaa tcaatgtttt    900
ccagtcccat cccagaacat cagttgtaag ataagtacaa ttggttgtcc ttgatttcat    960
aagtagaaca aacactaaat gtgcctctga gatggccacc ccgggcaggg acctgtgcct   1020
tccgccgatg ctcagggctc cctctggctc ccgggtcact cttgtggccc cagtgggtgg   1080
tccctgcagt catggcctga gtgcgcaggg gccaccgcgt ggctgctgct gtcctcctcc   1140
ggggaccacg ggggaacaag gtcacacctt ccgtgctgtg aagctgtcca gatgtgcctc   1200
tttggctggg ggttttggtg gacgtttcaa gtggcatttt gtacaatgca ggttagaatt   1260
caggaatttc aagtatgtgc ccgggtntgt caggtccag ttgccttnt gacggccccc    1320
ctcagaggga cggcgatgag cactaaatgc ttttttgant attttcctat agattttttt   1380
taaaactttt ttttcctcct gttccaattg atagctttct tatttaataa attctgtagt   1440
tcacc                                                               1445
```

    <210> 563
    <211> 192
    <212> PRT
    <213> Homo Sapiens

    <400> 563
Pro Ala Gly Ser Pro Ser Ala Asp Phe Ala Val His Gly Glu Ser Leu
1   5   10   15
Gly Asp Arg His Leu Arg Thr Leu Gln Ile Ser Tyr Asp Ala Leu Lys
                20   25   30
Asp Glu Asn Ser Lys Leu Arg Arg Lys Leu Asn Glu Val Gln Ser Phe
            35   40   45
Ser Glu Ala Gln Thr Glu Met Val Arg Thr Leu Glu Arg Lys Leu Glu
        50   55   60
Ala Lys Met Ile Lys Glu Glu Ser Asp Tyr His Asp Leu Glu Ser Val
65   70   75   80
Val Gln Gln Val Glu Gln Asn Leu Glu Leu Met Thr Lys Arg Ala Val
                85   90   95
Lys Ala Glu Asn His Val Val Lys Leu Lys Gln Glu Ile Ser Leu Leu
                100   105   110
Gln Ala Gln Val Ser Asn Phe Gln Arg Glu Asn Glu Ala Leu Arg Cys
            115   120   125
Gly Gln Gly Ala Ser Leu Thr Val Val Lys Gln Asn Ala Asp Val Ala
        130   135   140
Leu Gln Asn Leu Arg Val Val Met Asn Ser Ala Gln Ala Ser Ile Lys
145   150   155   160
Gln Leu Val Ser Gly Ala Glu Thr Leu Asn Leu Val Ala Glu Ile Leu
                165   170   175
Lys Ser Ile Asp Arg Ile Ser Glu Val Lys Asp Glu Glu Glu Asp Ser
                180   185   190
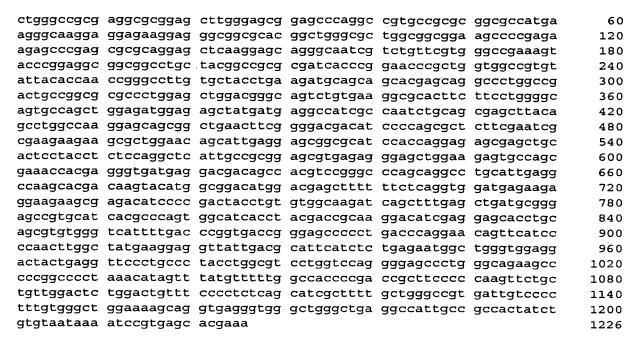
    <210> 564
    <211> 1226
    <212> DNA
    <213> Homo Sapiens

    <400> 564

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ctgggccgcg aggcgcggag cttgggagcg gagcccaggc cgtgccgcgc ggcgccatga    60
agggcaagga ggagaaggag ggcggcgcac ggctgggcgc tggcggcgga agccccgaga   120
agagcccgag cgcgcaggag ctcaaggagc agggcaatcg tctgttcgtg ggccgaaagt   180
acccggaggc ggcggcctgc tacggccgcg cgatcacccg gaacccgctg gtggccgtgt   240
attacaccaa ccgggccttg tgctacctga agatgcagca gcacgagcag gccctggccg   300
actgccggcg cgccctggag ctggacgggc agtctgtgaa ggcgcacttc ttcctggggc   360
agtgccagct ggagatggag agctatgatg aggccatcgc caatctgcag cgagcttaca   420
gcctggccaa ggagcagcgg ctgaacttcg gggacgacat ccccagcgct cttcgaatcg   480
cgaagaagaa gcgctggaac agcattgagg agcggcgcat ccaccaggag agcgagctgc   540
actcctacct ctccaggctc attgccgcgg agcgtgagag ggagctggaa gagtgccagc   600
gaaaccacga gggtgatgag gacgacagcc acgtccgggc ccagcaggcc tgcattgagg   660
ccaagcacga caagtacatg gcggacatgg acgagctttt ttctcaggtg gatgagaaga   720
ggaagaagcg agacatcccc gactacctgt gtggcaagat cagctttgag ctgatgcggg   780
agccgtgcat cacgcccagt ggcatcacct acgaccgcaa ggacatcgag gagcacctgc   840
agcgtgtggg tcattttgac ccggtgaccg ggagccccct gacccaggaa cagttcatcc   900
ccaacttggc tatgaaggag gttattgacg cattcatctc tgagaatggc tgggtggagg   960
actactgagg ttccctgccc tacctggcgt cctggtccag gggagccctg ggcagaagcc  1020
cccggcccct aaacatagtt tatgttttg gccacccga ccgcttcccc caagttctgc  1080
tgttggactc tggactgttt cccctctcag catcgctttt gctgggccgt gattgtcccc  1140
tttgtgggct ggaaaagcag gtgagggtgg ctgggctga ggccattgcc gccactatct  1200
gtgtaataaa atccgtgagc acgaaa                                       1226
```

<210> 565
<211> 303
<212> PRT
<213> Homo Sapiens

<400> 565

```
Met Lys Gly Lys Glu Glu Lys Glu Gly Gly Ala Arg Leu Gly Ala Gly
1               5                   10                  15
Gly Gly Ser Pro Glu Lys Ser Pro Ser Ala Gln Glu Leu Lys Glu Gln
            20                  25                  30
Gly Asn Arg Leu Phe Val Gly Arg Lys Tyr Pro Glu Ala Ala Ala Cys
        35                  40                  45
Tyr Gly Arg Ala Ile Thr Arg Asn Pro Leu Val Ala Val Tyr Tyr Thr
    50                  55                  60
Asn Arg Ala Leu Cys Tyr Leu Lys Met Gln Gln His Glu Gln Ala Leu
65                  70                  75                  80
Ala Asp Cys Arg Arg Ala Leu Glu Leu Asp Gly Gln Ser Val Lys Ala
            85                  90                  95
His Phe Phe Leu Gly Gln Cys Gln Leu Glu Met Glu Ser Tyr Asp Glu
            100                 105                 110
Ala Ile Ala Asn Leu Gln Arg Ala Tyr Ser Leu Ala Lys Glu Gln Arg
            115                 120                 125
Leu Asn Phe Gly Asp Asp Ile Pro Ser Ala Leu Arg Ile Ala Lys Lys
    130                 135                 140
Lys Arg Trp Asn Ser Ile Glu Glu Arg Arg Ile His Gln Glu Ser Glu
145                 150                 155                 160
Leu His Ser Tyr Leu Ser Arg Leu Ile Ala Ala Glu Arg Glu Arg Glu
            165                 170                 175
Leu Glu Glu Cys Gln Arg Asn His Glu Gly Asp Glu Asp Asp Ser His
            180                 185                 190
Val Arg Ala Gln Gln Ala Cys Ile Glu Ala Lys His Asp Lys Tyr Met
        195                 200                 205
Ala Asp Met Asp Glu Leu Phe Ser Gln Val Asp Glu Lys Arg Lys Lys
```

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```
            210                        215                        220
Arg Asp Ile Pro Asp Tyr Leu Cys Gly Lys Ile Ser Phe Glu Leu Met
225                        230                        235                        240
Arg Glu Pro Cys Ile Thr Pro Ser Gly Ile Thr Tyr Asp Arg Lys Asp
                    245                        250                        255
Ile Glu Glu His Leu Gln Arg Val Gly His Phe Asp Pro Val Thr Gly
                    260                        265                        270
Ser Pro Leu Thr Gln Glu Gln Phe Ile Pro Asn Leu Ala Met Lys Glu
                    275                        280                        285
Val Ile Asp Ala Phe Ile Ser Glu Asn Gly Trp Val Glu Asp Tyr
                    290                        295                        300
```

<210> 566
<211> 1857
<212> DNA
<213> Homo Sapiens

<400> 566

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gtgaggggct cctttgggca ggggtagtgt ttggtgtccc tgtcttgcgt gatattgaca    60
aactgaagct ttcctgcacc actggactta aggaanagtg tactcgtagg cggacagctt   120
tagtggccgg ccggccgctc tcatcccccg taaggagcag agtcctttgt actgaccaag   180
atgagcaaca tctacatcca ggagcctccc acgaatggga aggttttatt gaaaactaca   240
gctggagata ttgacataga gttgtggtcc aaagaagctc ctaaagcttg cagaaatttt   300
atcccaactt tgtttggaag cttattatga caataccatt tttcatagag ttgtgcctgg   360
tttcatagtc caaggcggag atcctactgg cacagggagt ggtggagagt ctatctatgg   420
agcgccattc aaagatgaat ttcattcacg gttgcgtttt aatcggagag gactggttgc   480
catggcaaat gctggttctc atgataatgg cacccacttt ttcttcacac tgggtcgagc   540
agatgaactt aacaataagc ataccatctt tggaaaggtt acaggggata cagtatataa   600
catgttgcga ctgtcagaag tagacattga tgatgacgaa agaccacata atccacacaa   660
aataaaaagc tgtgaggttt tgtttaatcc ttttgatgac atcattccaa gggaaattaa   720
aaggctgaaa aaagagaaac cagaggagga agtaaagaaa ttgaaaccca aaggcacaaa   780
aaattttagt ttactttcat ttggagagga agctgaggaa gaagaagagg aagtaaatcg   840
agttagtcag agcatgaagg gcaaaagcaa aagtagtcat gacttgctta aggatgatcc   900
acatctcagt tctgttccag ttgtagaaag tgaaaaaggt gatgcaccag atttagttga   960
tgatggagaa gatgaaagtg cagagcatga tgaatatatt gatggtgatg aaaagaacct  1020
gatgagagaa agaattgcca aaaaattaaa aaaggacaca agtgcgaatg ttaaatcagc  1080
tggagaagga gaagtggaga agaaatcagt cagccgcagt gaagagctca gaaaagaagc  1140
aagacaatta aaacgggaac tcttagcagc aaaacaaaaa aaagtagaaa atgcagcaaa  1200
acaagcagaa aaaagaagtg aagaggaaga agcccctcca gatggtgctg ttgccgaata  1260
cagaagagaa aagcaaaagt atgaagcttt gaggaagcaa cagtcaaaga agggaacttc  1320
ccgggaagat cagacccttg cactgctgaa ccagtttaaa tctaaactca ctcaagcaat  1380
tgctgaaaca cctgaaaatg acattcctga aacagaagta gaagatgatg aaggatggat  1440
gtcacatgta cttcagtttg aggataaaag cagaaaagtg aaagatgcaa gcatgcaaga  1500
ctcagataca tttgaaatct atgatcctcg gaatccagtg aataaaagaa ggagggaaga  1560
aagcaaaaag ctgatgagag agaaaaaaga aagaagataa aatgagaata atgataacca  1620
gaacttgctg gaaatgtgcc tacaatggcc ttgtaacagc cattgttccc aacagcatca  1680
cttaggggtg tgaaaagaag tatttttgaa cctgttgtct ggttttgaaa aacaattatc  1740
ttgttttgca aattgtggaa tgatgtaagc aaatgctttt ggttactggt acatgtgttt  1800
tttcctagct gacctttat attgctaaat ctgaaataaa ataactttcc ttccaaa    1857
```

<210> 567
<211> 372
<212> PRT
<213> Homo Sapiens
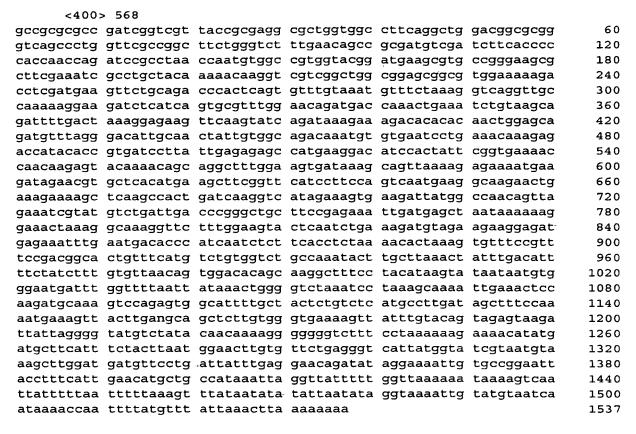
<400> 567

```
Met Ala Asn Ala Gly Ser His Asp Asn Gly Thr His Phe Phe Phe Thr
1               5                   10                  15
Leu Gly Arg Ala Asp Glu Leu Asn Asn Lys His Thr Ile Phe Gly Lys
            20              25              30
Val Thr Gly Asp Thr Val Tyr Asn Met Leu Arg Leu Ser Glu Val Asp
        35              40              45
Ile Asp Asp Asp Glu Arg Pro His Asn Pro His Lys Ile Lys Ser Cys
    50              55              60
Glu Val Leu Phe Asn Pro Phe Asp Asp Ile Ile Pro Arg Glu Ile Lys
65              70              75              80
Arg Leu Lys Lys Glu Lys Pro Glu Glu Glu Val Lys Lys Leu Lys Pro
            85              90              95
Lys Gly Thr Lys Asn Phe Ser Leu Leu Ser Phe Gly Glu Glu Ala Glu
        100             105             110
Glu Glu Glu Glu Glu Val Asn Arg Val Ser Gln Ser Met Lys Gly Lys
        115             120             125
Ser Lys Ser Ser His Asp Leu Leu Lys Asp Asp Pro His Leu Ser Ser
    130             135             140
Val Pro Val Val Glu Ser Glu Lys Gly Asp Ala Pro Asp Leu Val Asp
145             150             155             160
Asp Gly Glu Asp Glu Ser Ala Glu His Asp Glu Tyr Ile Asp Gly Asp
            165             170             175
Glu Lys Asn Leu Met Arg Glu Arg Ile Ala Lys Lys Leu Lys Lys Asp
            180             185             190
Thr Ser Ala Asn Val Lys Ser Ala Gly Glu Gly Glu Val Glu Lys Lys
        195             200             205
Ser Val Ser Arg Ser Glu Glu Leu Arg Lys Glu Ala Arg Gln Leu Lys
    210             215             220
Arg Glu Leu Leu Ala Ala Lys Gln Lys Lys Val Glu Asn Ala Ala Lys
225             230             235             240
Gln Ala Glu Lys Arg Ser Glu Glu Glu Glu Ala Pro Pro Asp Gly Ala
            245             250             255
Val Ala Glu Tyr Arg Arg Glu Lys Gln Lys Tyr Glu Ala Leu Arg Lys
        260             265             270
Gln Gln Ser Lys Lys Gly Thr Ser Arg Glu Asp Gln Thr Leu Ala Leu
    275             280             285
Leu Asn Gln Phe Lys Ser Lys Leu Thr Gln Ala Ile Ala Glu Thr Pro
    290             295             300
Glu Asn Asp Ile Pro Glu Thr Glu Val Glu Asp Asp Glu Gly Trp Met
305             310             315             320
Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg Lys Val Lys Asp Ala
            325             330             335
Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr Asp Pro Arg Asn Pro
            340             345             350
Val Asn Lys Arg Arg Arg Glu Glu Ser Lys Lys Leu Met Arg Glu Lys
    355             360             365
Lys Glu Arg Arg
    370
```

<210> 568
<211> 1537
<212> DNA
<213> Homo Sapiens

```
     <400> 568
gccgcgcgcc gatcggtcgt taccgcgagg cgctggtggc cttcaggctg gacggcgcgg    60
gtcagccctg gttcgccggc ttctgggtct ttgaacagcc gcgatgtcga tcttcacccc   120
caccaaccag atccgcctaa ccaatgtggc cgtggtacgg atgaagcgtg ccgggaagcg   180
cttcgaaatc gcctgctaca aaaacaaggt cgtcggctgg cggagcggcg tggaaaaaga   240
cctcgatgaa gttctgcaga cccactcagt gtttgtaaat gtttctaaag gtcaggttgc   300
caaaaaggaa gatctcatca gtgcgtttgg aacagatgac caaactgaaa tctgtaagca   360
gattttgact aaaggagaag ttcaagtatc agataaagaa agacacacac aactggagca   420
gatgtttagg gacattgcaa ctattgtggc agacaaatgt gtgaatcctg aaacaaagag   480
accatacacc gtgatcctta ttgagagagc catgaaggac atccactatt cggtgaaaac   540
caacaagagt acaaaacagc aggctttgga agtgataaag cagttaaaag agaaaatgaa   600
gatagaacgt gctcacatga agcttcggtt catccttcca gtcaatgaag caagaactg    660
aaagaaaagc tcaagccact gatcaaggtc atagaaagtg aagattatgg ccaacagtta   720
gaaatcgtat gtctgattga cccgggctgc ttccgagaaa ttgatgagct aataaaaaag   780
gaaactaaag gcaaaggttc tttggaagta ctcaatctga aagatgtaga agaaggagat   840
gagaaatttg aatgacaccc atcaatctct tcacctctaa aacactaaag tgtttccgtt   900
tccgacggca ctgtttcatg tctgtggtct gccaaatact tgcttaaact atttgacatt   960
ttctatcttt gtgttaacag tggacacagc aaggctttcc tacataagta taataatgtg  1020
ggaatgattt ggttttaatt ataaactggg gtctaaatcc taaagcaaaa ttgaaactcc  1080
aagatgcaaa gtccagagtg gcatttgct actctgtctc atgccttgat agctttccaa   1140
aatgaaagtt acttgangca gctcttgtgg gtgaaaagtt atttgtacag tagagtaaga  1200
ttattagggg tatgtctata caacaaaagg ggggtcttt cctaaaaaag aaaacatatg   1260
atgcttcatt tctacttaat ggaacttgtg ttctgagggt cattatggta tcgtaatgta  1320
aagcttggat gatgttcctg .attatttgag gaacagatat aggaaaattg tgccggaatt  1380
accttcatt gaacatgctg ccataaatta ggttattttt ggttaaaaaa taaaagtcaa   1440
ttattttaa tttttaaagt ttataatata tattaatata ggtaaaattg tatgtaatca   1500
ataaaccaa ttttatgttt attaaactta aaaaaaa                            1537

     <210> 569
     <211> 210
     <212> PRT
     <213> Homo Sapiens

     <400> 569
Ala Ala Arg Arg Ser Val Val Thr Ala Arg Arg Trp Trp Pro Ser Gly
1               5                   10                  15
Trp Thr Ala Arg Val Ser Pro Gly Ser Pro Ala Ser Gly Ser Leu Asn
            20                  25                  30
Ser Arg Asp Val Asp Leu His Pro His Gln Pro Asp Pro Pro Asn Gln
            35                  40                  45
Cys Gly Arg Gly Thr Asp Glu Ala Cys Arg Glu Ala Leu Arg Asn Arg
        50                  55                  60
Leu Leu Gln Lys Gln Val Val Gly Trp Arg Ser Gly Val Glu Lys Asp
65                  70                  75                  80
Leu Asp Glu Val Leu Gln Thr His Ser Val Phe Val Asn Val Ser Lys
                85                  90                  95
Gly Gln Val Ala Lys Lys Glu Asp Leu Ile Ser Ala Phe Gly Thr Asp
            100                 105                 110
Asp Gln Thr Glu Ile Cys Lys Gln Ile Leu Thr Lys Gly Glu Val Gln
            115                 120                 125
Val Ser Asp Lys Glu Arg His Thr Gln Leu Glu Gln Met Phe Arg Asp
            130                 135                 140
Ile Ala Thr Ile Val Ala Asp Lys Cys Val Asn Pro Glu Thr Lys Arg
145                 150                 155                 160
Pro Tyr Thr Val Ile Leu Ile Glu Arg Ala Met Lys Asp Ile His Tyr
```

-300-

```
                165                170                175
Ser Val Lys Thr Asn Lys Ser Thr Lys Gln Gln Ala Leu Glu Val Ile
                180                185                190
Lys Gln Leu Lys Glu Lys Met Lys Ile Glu Arg Ala His Met Lys Leu
                195                200                205
Arg Phe
                210
```

```
        <210> 570
        <211> 1211
        <212> DNA
        <213> Homo Sapiens

        <400> 570
accatctttg gaaaggttac aggggtatac agtatataac atgttgcgac tgtcagaagt      60
agacattgat gatgacgaaa gaccacataa tccacacaaa ataaaaagct gtgaggtttt     120
gtttaatcct tttgatgaca tcattccaag ggaaattaaa aggctgaaaa aagagaaacc     180
agaggaggaa gtaaagaaat tgaaacccaa aggcacaaaa aattttagtt tactttcatt     240
tggagaggaa gctgaggaag aagaggagga agtaaatcga gttagtcaga gcatgaaggg     300
caaaagcaaa agtagtcatg acttgcttaa ggatgatcca catctcagtt ctgttccagt     360
tgtagaaagt gaaaaaggtg atgcagcaga tttagttgat gatggagaag atgaaagtgc     420
agagcatgat gaatatattg atggtgatga aaagaacctg atgagagaaa gaattgccaa     480
aaaattaaaa aaggacacaa gtgcgaatgt taaatcagct ggagaaggag aagtggagaa     540
gaaatcagtc agccgcagtg aagagctcag aaaagaagca agacaattaa aacgggaact     600
cttagcagca gaacaaaaaa aagtagaaaa tgcagcaaaa caagcagaaa aaagaagtga     660
agaggaagaa gcccctccag atggtgctgt tgccgaatac agaagagaaa agcaaaagta     720
tgaagctctg aggaagcaac agtcaaagaa gggaacttcc cgggaagatc agacccttgc     780
actgctgaac cagtttaaat ctaaactcac tcaagcaatt gctgaaacgc ctgaaaatga     840
cattcctgaa acagaagtag aagatgatga aggatggatg tcacatgtac ttcagtttga     900
ggataaaagc agaaaagtga aagatgcaag catgcaagac tcagatacat ttgaaatcta     960
tgatcctcgg aatccagtga ataaaagaag gagggaagaa agcaaaaagc tgatgagaga    1020
gaaaaaagaa agaagataaa atgagaataa tgataaccag aacttgctgg aaatgtgcct    1080
acaatggcct tgtaacagcc attgttccca acagcatcac ttaggggtgt gaaaagaagt    1140
atttttgaac ctgttgtctg gttttgaaaa acaattatct tgttttgcaa attgtggaat    1200
gatgtaagca a                                                        1211
```

```
        <210> 571
        <211> 354
        <212> PRT
        <213> Homo Sapiens

        <400> 571
Pro Ser Leu Glu Arg Leu Gln Gly Tyr Thr Val Tyr Asn Met Leu Arg
1                5                10                15
Leu Ser Glu Val Asp Ile Asp Asp Glu Arg Pro His Asn Pro His
                20                25                30
Lys Ile Lys Ser Cys Glu Val Leu Phe Asn Pro Phe Asp Asp Ile Ile
        35                40                45
Pro Arg Glu Ile Lys Arg Leu Lys Lys Glu Lys Pro Glu Glu Glu Val
        50                55                60
Lys Lys Leu Lys Pro Lys Gly Thr Lys Asn Phe Ser Leu Leu Ser Phe
65                70                75                80
Gly Glu Glu Ala Glu Glu Glu Glu Glu Val Asn Arg Val Ser Gln
                85                90                95
Ser Met Lys Gly Lys Ser Lys Ser Ser His Asp Leu Leu Lys Asp Asp
```

```
                100                      105                    110
Pro His Leu Ser Ser Val Pro Val Val Glu Ser Glu Lys Gly Asp Ala
            115                      120                    125
Ala Asp Leu Val Asp Asp Gly Glu Asp Glu Ser Ala Glu His Asp Glu
        130                      135                    140
Tyr Ile Asp Gly Asp Glu Lys Asn Leu Met Arg Glu Arg Ile Ala Lys
145                      150                      155                    160
Lys Leu Lys Lys Asp Thr Ser Ala Asn Val Lys Ser Ala Gly Glu Gly
                    165                      170                    175
Glu Val Glu Lys Lys Ser Val Ser Arg Ser Glu Glu Leu Arg Lys Glu
                180                      185                    190
Ala Arg Gln Leu Lys Arg Glu Leu Leu Ala Ala Glu Gln Lys Lys Val
                195                      200                    205
Glu Asn Ala Ala Lys Gln Ala Glu Lys Arg Ser Glu Glu Glu Glu Ala
        210                      215                    220
Pro Pro Asp Gly Ala Val Ala Glu Tyr Arg Arg Glu Lys Gln Lys Tyr
225                      230                      235                    240
Glu Ala Leu Arg Lys Gln Gln Ser Lys Lys Gly Thr Ser Arg Glu Asp
                    245                      250                    255
Gln Thr Leu Ala Leu Leu Asn Gln Phe Lys Ser Lys Leu Thr Gln Ala
                260                      265                    270
Ile Ala Glu Thr Pro Glu Asn Asp Ile Pro Glu Thr Glu Val Glu Asp
                275                      280                    285
Asp Glu Gly Trp Met Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg
            290                      295                    300
Lys Val Lys Asp Ala Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr
305                      310                      315                    320
Asp Pro Arg Asn Pro Val Asn Lys Arg Arg Arg Glu Glu Ser Lys Lys
                    325                      330                    335
Leu Met Arg Glu Lys Lys Glu Arg Arg Ile Leu Pro Val Asn Glu Gly
                340                      345                    350
Lys Asn
```

```
        <210> 572
        <211> 604
        <212> DNA
        <213> Homo Sapiens

        <400> 572
ccttcggcaa aaaattttgg tcccaacttt ttgttccatt ccaaaagggc ttaccttcat      60
tccctttagc aacagggccc ccaagaagct cccgttcatt cacccttacc ttggcccccca    120
ggttggaccc ccaaaggctc ccttacccca aagtgggtgg ttgaataaat cttctcagtt     180
ccctggctcc caaggcccat tgaagaagat tgtacaaggc gtgcctcaag taccccgagt     240
ggaaacagaa gcacctgcct cacttcaagc cgtggctgca cccggagcag agcccgttgc     300
cgagcctggc gctgtcggag ctgtcggtgc agcatgcgga ctcactggag aacatcgacg     360
agagcgcggt ggccgagagc agagaggagc ggatgggcgg cgcgggcggc gagggcagcg     420
acgacgacac cttcacctga gcccgcaccg cttcagggac ggagacagga ccgggcgagc     480
cctggggcgg cggccgctcc tgcactttct cccctccccc acccggcacc tggtggcacc     540
gggccaggcc caggcgggtg ctgcagcctg ctggacaga gcccaataaa cggatcccac       600
agcc                                                                   604

        <210> 573
        <211> 195
        <212> PRT
```

<213> Homo Sapiens

<400> 573

```
Leu Arg Gln Lys Ile Leu Val Pro Thr Phe Cys Ser Ile Pro Lys Gly
1               5               10                  15
Leu Thr Phe Ile Pro Phe Ser Asn Arg Ala Pro Lys Lys Leu Pro Phe
            20              25                  30
Ile His Pro Tyr Leu Gly Pro Gln Val Gly Pro Pro Lys Ala Pro Leu
        35              40              45
Pro Gln Ser Gly Trp Leu Asn Lys Ser Ser Gln Phe Pro Gly Ser Gln
    50              55                  60
Gly Pro Leu Lys Lys Ile Val Gln Gly Val Pro Gln Val Pro Arg Val
65              70                  75                      80
Glu Thr Glu Ala Pro Ala Ser Leu Gln Ala Val Ala Ala Pro Gly Ala
            85                  90                  95
Glu Pro Val Ala Glu Pro Gly Ala Val Gly Ala Val Gly Ala Ala Cys
            100             105                 110
Gly Leu Thr Gly Glu His Arg Arg Glu Arg Gly Gly Arg Glu Gln Arg
        115             120                 125
Gly Ala Asp Gly Arg Arg Gly Arg Arg Gly Gln Arg Arg Arg His Leu
    130             135                 140
His Leu Ser Pro His Arg Phe Arg Asp Gly Asp Arg Thr Gly Arg Ala
145             150                 155                 160
Leu Gly Arg Arg Pro Leu Leu His Phe Leu Pro Ser Pro Thr Arg His
            165                 170                 175
Leu Val Ala Pro Gly Gln Ala Gln Ala Gly Ala Ala Ala Trp Leu Asp
            180                 185                 190
Arg Ala Gln
        195
```

<210> 574
<211> 742
<212> DNA
<213> Homo Sapiens

<400> 574

```
cccaccaggg ccccctcgat gcagagacag aggtcggtgc tgaccgctgc acgtcgactg      60
cctaccagga gcagaggccc caggtggagc aagttggcaa agtcgctcct ctctccccag     120
ggctgccggc aatggggggg cctggccccg gccctgtga ggaccccgcg ggtgctgggg      180
gagcaggtgc aggggggctcc gagcccctgg tgactgtcac cgtgcagtgc gccttcacag    240
tggccctgag ggcaggaaga ggagccgacc tgtccagcct gcgggcactg ctgggccaag     300
ccttccttca ccaggcccag cttgggcaat tcagttacct agccccaggt gaggacgggc     360
actgggtccc catccccgag gaggagtcgc tgcagagggc ctggcaggac gcagctgcct     420
gccccagggg gctgcagctg cagtgcaggg gagccggggg tcggccggtc ctttaccagg     480
tggtggccca gcacagatac tccgcccagg ggccagagga cctgggcttc cgacagggg      540
acacggtgga cgtcctgtgt gaagtggacc aggcatggct ggagggccac tgtgacggcc     600
gcatcggcat cttccccaag tgcttcgtgg tccccgccgg ccctcggatg tcaggagccc     660
ccggccgcct gccccgatcc cagcagggag atcagcccta atgatgctgt gtccatgatg     720
cttttaataa aaacaacccc ca                                             742
```

<210> 575
<211> 232
<212> PRT
<213> Homo Sapiens

```
<400> 575
His Gln Gly Pro Leu Asp Ala Glu Thr Glu Val Gly Ala Asp Arg Cys
1               5                   10                  15
Thr Ser Thr Ala Tyr Gln Glu Gln Arg Pro Gln Val Glu Gln Val Gly
            20                  25                  30
Lys Val Ala Pro Leu Ser Pro Gly Leu Pro Ala Met Gly Gly Pro Gly
        35                  40                  45
Pro Gly Pro Cys Glu Asp Pro Ala Gly Ala Gly Gly Ala Gly Ala Gly
    50                  55                  60
Gly Ser Glu Pro Leu Val Thr Val Thr Val Gln Cys Ala Phe Thr Val
65                  70                  75                  80
Ala Leu Arg Ala Gly Arg Gly Ala Asp Leu Ser Ser Leu Arg Ala Leu
                85                  90                  95
Leu Gly Gln Ala Phe Leu His Gln Ala Gln Leu Gly Gln Phe Ser Tyr
            100                 105                 110
Leu Ala Pro Gly Glu Asp Gly His Trp Val Pro Ile Pro Glu Glu Glu
        115                 120                 125
Ser Leu Gln Arg Ala Trp Gln Asp Ala Ala Ala Cys Pro Arg Gly Leu
    130                 135                 140
Gln Leu Gln Cys Arg Gly Ala Gly Gly Arg Pro Val Leu Tyr Gln Val
145                 150                 155                 160
Val Ala Gln His Arg Tyr Ser Ala Gln Gly Pro Glu Asp Leu Gly Phe
                165                 170                 175
Arg Gln Gly Asp Thr Val Asp Val Leu Cys Glu Val Asp Gln Ala Trp
            180                 185                 190
Leu Glu Gly His Cys Asp Gly Arg Ile Gly Ile Phe Pro Lys Cys Phe
        195                 200                 205
Val Val Pro Ala Gly Pro Arg Met Ser Gly Ala Pro Gly Arg Leu Pro
    210                 215                 220
Arg Ser Gln Gln Gly Asp Gln Pro
225                 230

    <210> 576
    <211> 1087
    <212> DNA
    <213> Homo Sapiens

    <400> 576
aagatgatgc ctagtaaatt acagaagaac aaacagagac tgcgaaacga tcctctcaat    60
caaaataagg gtaaaccaga cttgaataca acattgccaa ttagacaaac agcatcaatt   120
ttcaaacaac cggtaaccaa agtcacaaat catcctagta ataaagtgaa atcagaccca   180
caacgaatga atgaacagcc acgtcagctt ttctgggaga agaggctaca aggacttagt   240
gcatcagatg taacagaaca aattataaaa accatggaac tacccaaagg tcttcaagga   300
gttggtccag gtagcaatga tgagaccctt ttatctgctg ttgccagtgc tttgcacaca   360
agctctgcgc caatcacagg gcaagtctcc gctgctgtgg aaaagaaccc tgctgtttgg   420
cttaacacat ctcaacccct ctgcaaagct tttattgtca cagatgaaga catcaggaaa   480
caggaagagc gagtacagca agtacgcaag aaattggaag aagcactgat ggcagacatc   540
ttgtcgcgag ctgctgatac agaagagatg gatattgaaa tggacagtgg agatgaagcc   600
taagaatatg atcaggtaac tttcgaccga ctttccccaa gagaaaattc ctagaaattg   660
aacaaaaatg tttccactgg cttttgcctg taagaaaaaa aatgtacccg agcacataga   720
gctttttaat agcactaacc aatgcctttt tagatgtatt tttgatgtat atatctatta   780
ttcaaaaaat catgtttatt ttgagtccta ggacttaaaa ttagtctttt gtaatatcaa   840
gcaggaccct aagatgaagc tgagcttttg atgccaggtg caatttactg gaaatgtagc   900
acttacgtaa aacatttgtt tcccccacag ttttaataag aacagatcag gaattctaaa   960
taaatttccc agttaaagat tattgtgact tcactgtata taaacatatt tttatacttt  1020
```

```
attgaaaggg gacacctgta cattcttcca tcgtcactgt aaagacaaat aaatgattat      1080
attcaca                                                                 1087
```

<210> 577
<211> 200
<212> PRT
<213> Homo Sapiens

<400> 577

```
Lys Met Met Pro Ser Lys Leu Gln Lys Asn Lys Gln Arg Leu Arg Asn
1               5                  10                  15
Asp Pro Leu Asn Gln Asn Lys Gly Lys Pro Asp Leu Asn Thr Thr Leu
            20               ·           25                  30
Pro Ile Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val Thr Lys Val
            35                  40                  45
Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln Arg Met Asn
        50                  55                  60
Glu Gln Pro Arg Gln Leu Phe Trp Glu Lys Arg Leu Gln Gly Leu Ser
65                  70                  75                  80
Ala Ser Asp Val Thr Glu Gln Ile Ile Lys Thr Met Glu Leu Pro Lys
                85                  90                  95
Gly Leu Gln Gly Val Gly Pro Gly Ser Asn Asp Glu Thr Leu Leu Ser
            100                 105                 110
Ala Val Ala Ser Ala Leu His Thr Ser Ser Ala Pro Ile Thr Gly Gln
        115                 120                 125
Val Ser Ala Ala Val Glu Lys Asn Pro Ala Val Trp Leu Asn Thr Ser
    130                 135                 140    ·
Gln Pro Leu Cys Lys Ala Phe Ile Val Thr Asp Glu Asp Ile Arg Lys
145                 150                 155                 160
Gln Glu Glu Arg Val Gln Gln Val Arg Lys Lys Leu Glu Glu Ala Leu
                165                 170                 175
Met Ala Asp Ile Leu Ser Arg Ala Ala Asp Thr Glu Glu Met Asp Ile
            180                 185                 190
Glu Met Asp Ser Gly Asp Glu Ala
        195                 200
```
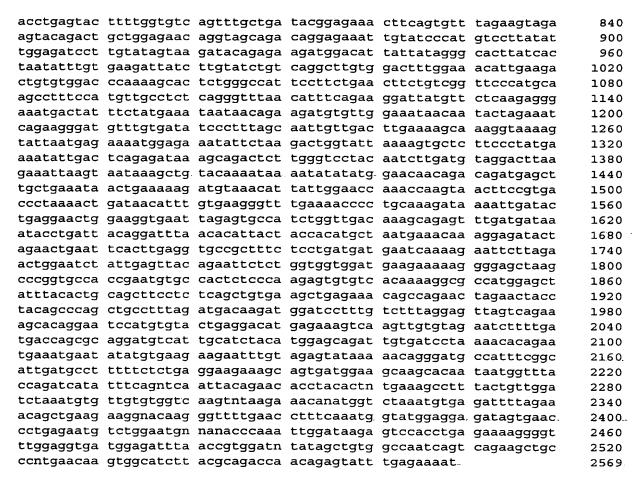
<210> 578
<211> 2569
<212> DNA
<213> Homo Sapiens

<400> 578

```
aagagtaaaa gctactcttt cagagagaaa aataggagat tcatgtgaca aagatttgcc       60
tctgaaattt tgtgagttcc cacagaagac tataatgcct ggatttaaaa caactgtata      120
tgtttctcat ataaatgacc tttcagactt ttatgttcaa ctaatagaag atgaagctga      180
aattagtcat ctttcagaga gattaaacag tgttaaaaca aggcccgaat attatgtagg      240
tccacctttg caaagaggag atatgatatg tgctgttttc ccagaagata tttatggta      300
tcgtgctgtg atcaaggagc aacaacccaa tgaccttctc tctgtgcagt ttatagatta      360
tggcaatgtt tctgtggttc atactaacaa aataggtagg cttgaccttg ttaatgcaat      420
attgccgggg ttgtgcattc attgctcctt gcagggattt gaggttcctg acaataaaaa      480
ttctaagaaa atgatgcatt acttttccca acggaccagc gaggctgcaa taagatgtga      540
atttgttaaa tttcaagaca gatgggaagt tattcttgct gatgaacatg ggatcatagc      600
agatgatatg attagcaggt atgctctcag tgaaaaatct caagtagaac tttctaccca      660
agtaattaaa agtgccagtt caaagtctgt taacaaatca gacattgaca cttcagtatt      720
tcttaactgg tataatccag aaaaaaaaat gataagagct tatgccactg tgatagatgg      780
```

```
acctgagtac ttttggtgtc agtttgctga tacggagaaa cttcagtgtt tagaagtaga   840
agtacagact gctggagaac aggtagcaga caggagaaat tgtatcccat gtccttatat   900
tggagatcct tgtatagtaa gatacagaga agatggacat tattataggg cacttatcac   960
taatatttgt gaagattatc ttgtatctgt caggcttgtg gactttggaa acattgaaga  1020
ctgtgtggac ccaaaagcac tctgggccat tccttctgaa cttctgtcgg ttcccatgca  1080
agcctttcca tgttgcctct cagggtttaa catttcagaa ggattatgtt ctcaagaggg  1140
aaatgactat ttctatgaaa taataacaga agatgtgttg gaaataacaa tactagaaat  1200
cagaagggat gtttgtgata tcccttagc aattgttgac ttgaaaagca aaggtaaaag  1260
tattaatgag aaaatggaga aatattctaa gactggtatt aaaagtgctc ttccctatga  1320
aaatattgac tcagagataa agcagactct tgggtcctac aatcttgatg taggacttaa  1380
gaaattaagt aataaagctg tacaaaataa aatatatatg gaacaacaga cagatgagct  1440
tgctgaaata actgaaaaag atgtaaacat tattggaacc aaaccaagta acttccgtga  1500
ccctaaaact gataacattt gtgaagggtt tgaaaacccc tgcaaagata aaattgatac  1560
tgaggaactg gaaggtgaat tagagtgcca tctggttgac aaagcagagt ttgatgataa  1620
atacctgatt acaggattta acacattact accacatgct aatgaaacaa aggagatact  1680
agaactgaat tcacttgagg tgccgctttc tcctgatgat gaatcaaaag aattcttaga  1740
actggaatct attgagttac agaattctct ggtggtggat gaagaaaaag gggagctaag  1800
cccggtgcca ccgaatgtgc cactctccca agagtgtgtc acaaaaggcg ccatggagct  1860
atttacactg cagcttcctc tcagctgtga agctgagaaa cagccagaac tagaactacc  1920
tacagcccag ctgcctttag atgacaagat ggatcctttg tctttaggag ttagtcagaa  1980
agcacaggaa tccatgtgta ctgaggacat gagaaagtca agttgtgtag aatcttttga  2040
tgaccagcgc aggatgtcat tgcatctaca tggagcagat tgtgatccta aaacacagaa  2100
tgaaatgaat atatgtgaag aagaatttgt agagtataaa aacagggatg ccatttcggc  2160
attgatgcct ttttctctga ggaagaaagc agtgatggaa gcaagcacaa taatggttta  2220
ccagatcata tttcagntca attacagaac acctacactn tgaaagcctt tactgttgga  2280
tctaaatgtg ttgtgtggtc aagtntaaga aacanatggt ctaaatgtga gattttagaa  2340
acagctgaag aaggnacaag ggttttgaac ctttcaaatg gtatggagga gatagtgaac  2400
cctgagaatg tctggaatgn nanacccaaa ttggataaga gtccacctga gaaaggggt  2460
ttggaggtga tggagattta accgtggatn tatagctgtg gccaatcagt cagaagctgc  2520
ccntgaacaa gtggcatctt acgcagacca acagagtatt tgagaaaat.                2569
```

```
<210> 579
<211> 752
<212> PRT
<213> Homo Sapiens

<400> 579
Arg Val Lys Ala Thr Leu Ser Glu Arg Lys Ile Gly Asp Ser Cys Asp
1               5                   10                  15
Lys Asp Leu Pro Leu Lys Phe Cys Glu Phe Pro Gln Lys Thr Ile Met
                20                  25                  30
Pro Gly Phe Lys Thr Thr Val Tyr Val Ser His Ile Asn Asp Leu Ser
                35                  40                  45
Asp Phe Tyr Val Gln Leu Ile Glu Asp Glu Ala Glu Ile Ser His Leu
        50                  55                  60
Ser Glu Arg Leu Asn Ser Val Lys Thr Arg Pro Glu Tyr Tyr Val Gly
65                  70                  75                  80
Pro Pro Leu Gln Arg Gly Asp Met Ile Cys Ala Val Phe Pro Glu Asp
                85                  90                  95
Asn Leu Trp Tyr Arg Ala Val Ile Lys Glu Gln Gln Pro Asn Asp Leu
                100                 105                 110
Leu Ser Val Gln Phe Ile Asp Tyr Gly Asn Val Ser Val Val His Thr
        115                 120                 125
Asn Lys Ile Gly Arg Leu Asp Leu Val Asn Ala Ile Leu Pro Gly Leu
        130                 135                 140
```

```
Cys Ile His Cys Ser Leu Gln Gly Phe Glu Val Pro Asp Asn Lys Asn
145                 150                 155                 160
Ser Lys Lys Met Met His Tyr Phe Ser Gln Arg Thr Ser Glu Ala Ala
            165                 170                 175
Ile Arg Cys Glu Phe Val Lys Phe Gln Asp Arg Trp Glu Val Ile Leu
            180                 185                 190
Ala Asp Glu His Gly Ile Ile Ala Asp Asp Met Ile Ser Arg Tyr Ala
            195                 200                 205
Leu Ser Glu Lys Ser Gln Val Glu Leu Ser Thr Gln Val Ile Lys Ser
210                 215                 220
Ala Ser Ser Lys Ser Val Asn Lys Ser Asp Ile Asp Thr Ser Val Phe
225                 230                 235                 240
Leu Asn Trp Tyr Asn Pro Glu Lys Lys Met Ile Arg Ala Tyr Ala Thr
            245                 250                 255
Val Ile Asp Gly Pro Glu Tyr Phe Trp Cys Gln Phe Ala Asp Thr Glu
            260                 265                 270
Lys Leu Gln Cys Leu Glu Val Glu Val Gln Thr Ala Gly Glu Gln Val
            275                 280                 285
Ala Asp Arg Arg Asn Cys Ile Pro Cys Pro Tyr Ile Gly Asp Pro Cys
            290                 295                 300
Ile Val Arg Tyr Arg Glu Asp Gly His Tyr Tyr Arg Ala Leu Ile Thr
305                 310                 315                 320
Asn Ile Cys Glu Asp Tyr Leu Val Ser Val Arg Leu Val Asp Phe Gly
            325                 330                 335
Asn Ile Glu Asp Cys Val Asp Pro Lys Ala Leu Trp Ala Ile Pro Ser
            340                 345                 350
Glu Leu Leu Ser Val Pro Met Gln Ala Phe Pro Cys Cys Leu Ser Gly
            355                 360                 365
Phe Asn Ile Ser Glu Gly Leu Cys Ser Gln Glu Gly Asn Asp Tyr Phe
370                 375                 380
Tyr Glu Ile Ile Thr Glu Asp Val Leu Glu Ile Thr Ile Leu Glu Ile
385                 390                 395                 400
Arg Arg Asp Val Cys Asp Ile Pro Leu Ala Ile Val Asp Leu Lys Ser
            405                 410                 415
Lys Gly Lys Ser Ile Asn Glu Lys Met Glu Lys Tyr Ser Lys Thr Gly
            420                 425                 430
Ile Lys Ser Ala Leu Pro Tyr Glu Asn Ile Asp Ser Glu Ile Lys Gln
            435                 440                 445
Thr Leu Gly Ser Tyr Asn Leu Asp Val Gly Leu Lys Lys Leu Ser Asn
450                 455                 460
Lys Ala Val Gln Asn Lys Ile Tyr Met Glu Gln Gln Thr Asp Glu Leu
465                 470                 475                 480
Ala Glu Ile Thr Glu Lys Asp Val Asn Ile Ile Gly Thr Lys Pro Ser
            485                 490                 495
Asn Phe Arg Asp Pro Lys Thr Asp Asn Ile Cys Glu Gly Phe Glu Asn
            500                 505                 510
Pro Cys Lys Asp Lys Ile Asp Thr Glu Glu Leu Glu Gly Glu Leu Glu
            515                 520                 525
Cys His Leu Val Asp Lys Ala Glu Phe Asp Asp Lys Tyr Leu Ile Thr
            530                 535                 540
Gly Phe Asn Thr Leu Leu Pro His Ala Asn Glu Thr Lys Glu Ile Leu
545                 550                 555                 560
Glu Leu Asn Ser Leu Glu Val Pro Leu Ser Pro Asp Asp Glu Ser Lys
            565                 570                 575
Glu Phe Leu Glu Leu Glu Ser Ile Glu Leu Gln Asn Ser Leu Val Val
```

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```
              580                      585                      590
Asp Glu Glu Lys Gly Glu Leu Ser Pro Val Pro Pro Asn Val Pro Leu
              595                      600                      605
Ser Gln Glu Cys Val Thr Lys Gly Ala Met Glu Leu Phe Thr Leu Gln
              610                      615                      620
Leu Pro Leu Ser Cys Glu Ala Glu Lys Gln Pro Glu Leu Glu Leu Pro
625                      630                      635                      640
Thr Ala Gln Leu Pro Leu Asp Asp Lys Met Asp Pro Leu Ser Leu Gly
                        645                      650                      655
Val Ser Gln Lys Ala Gln Glu Ser Met Cys Thr Glu Asp Met Arg Lys
              660                      665                      670
Ser Ser Cys Val Glu Ser Phe Asp Asp Gln Arg Arg Met Ser Leu His
              675                      680                      685
Leu His Gly Ala Asp Cys Asp Pro Lys Thr Gln Asn Glu Met Asn Ile
              690                      695                      700
Cys Glu Glu Glu Phe Val Glu Tyr Lys Asn Arg Asp Ala Ile Ser Ala
705                      710                      715                      720
Leu Met Pro Phe Ser Leu Arg Lys Lys Ala Val Met Glu Ala Ser Thr
                        725                      730                      735
Ile Met Val Tyr Gln Ile Ile Phe Gln Asn Tyr Arg Thr Pro Thr Leu
                        740                      745                      750
```

```
     <210> 580
     <211> 2077
     <212> DNA
     <213> Homo Sapiens

     <400> 580
ctgttgattt tttggagaaa tatgggagaa acagtggaat atttttatga catttttagg      60
aaatcacctg gcttggttgg tagtcccaca ctgactttcc ttatgataat tctacagatg     120
gaggtgactc gagcagtgat gaggataaag aataacatga aactcctgtg gaagtagaac     180
tcatgactca ggttgaccaa gaggatatca ctcttcagag tggcagagat gaactaaatg     240
aggagctcat tcaggaagaa agctctgaag acgaaggaga atatgaagag gttagaaaag     300
atcaggattc tgttggtgaa atgaaggatg aaggggaaga gacttaaatt atcctgatac     360
taccattgac ttgtctcacc ttcaacccca aaggtccatc cagaaattgg cttcaaaaga     420
ggaatcttct aattctagtg acagtaaatc acagagccgg agacatttgt cagccaagga     480
aagaagggaa atgaaaaaga aaaaacttcc aagtgactca ggagatttag aagcgttaga     540
gggaaaggat aaagaaaaag aaagtactgt acacattgaa actcatcaga acacaagcaa-    600
aaatgttgcg gctgtgcagc caatgaaacg aggacaaaag agtaaaatga aaaaaatgaa     660
agaaaaatac aaagaccagg atgaagaaga ccgtgaactt atcatgaagt tgctggggtc     720
tgcaggttca aacaaagaag aaaaagggaa gaaggggaag aaaggaaaaa caaaggacga     780
acctgtgaag aaacagcccc agaaacctag aggtggacag agggtctctg acaacattaa     840
gaaagaaact ccgttccttg aggttataac tcatgagtta caagactttg ctgtagatga     900
tccacatgat gacaaggaag agcaagatct ggatcaacag ggaaatgagg aaaacctatt     960
tgattctttg acaggccagc cacatcctga agatgtacta ctgtttgcca ttccaatatg    1020
tgcccttac accaccatga caaactacaa atataaagtg aaacttactc ctggagtgca    1080
gaaaaaggga aaagctgcaa aaacagcctt gaatagtttc atgcattcca agaagcaac    1140
agcaagagaa aaagacttat ccgcagcgt aaaggacaca gatttatcaa gaaacattcc    1200
tggcaaagtg aaaagtgtct gcacccaatc ttctgaacgt aaaaaggaaa tagctgaaat    1260
gaaattctaa aatatttgag aagagccaat tttatagcct tttggaagtt caaagatgaa    1320
agcaccatgt atcaggattt ccgcattata aaaatgaact aaacattgcc ttgctatatt    1380
caccaaaagg acttaattct tgttttttc ccagttttat atagaggaaa cactgtctat    1440
gataggattt ccaaaagtat ttgtggacag ttaaatgcta attatataca tctgtagtta    1500
ttctacattt tcttgaaatt tgggaggtta ataccaagta ttcatttcat gatgtaaaga    1560
aactgaacag tgaagtggct tgattgctta aactattgac ttggtaagtc tactgtatat    1620
```

```
aacatctaat atatatatta caggccaaat gaactaaaca ttgccttgct atattcacca    1680
aaaggactta attcttgttt ttttcccagt tttatataga ggaaacacta tgataggatt    1740
tcctaaagta tttgtggaca gttaaatgct aattatatac atctgtagtt attctacatt    1800
ttcttgaaat ttgagaggtt aataccaagt attcatttca tgatgtaaag aaactgaaca    1860
gtgaagtggc ttgattgctt aaactattga cttggtaagt ctactgtata taacatctaa    1920
tatatatata ttataggcca gctacaaggg gtttaaatat ttaggattgt gtcttgaaaa    1980
ctaagtattg gagtggattt tcttctgctt tcattgatac ttgtcagaaa aaaatattag    2040
accaaaatgt aaaatataag taataattct catgaaa                             2077
```

<210> 581
<211> 312
<212> PRT
<213> Homo Sapiens

<400> 581

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Arg Gly Arg Asp Leu Asn Tyr Pro Asp Thr Thr Ile Asp Leu Ser His
1               5                   10                  15
Leu Gln Pro Gln Arg Ser Ile Gln Lys Leu Ala Ser Lys Glu Glu Ser
            20                  25                  30
Ser Asn Ser Ser Asp Ser Lys Ser Gln Ser Arg Arg His Leu Ser Ala
        35                  40                  45
Lys Glu Arg Arg Glu Met Lys Lys Lys Lys Leu Pro Ser Asp Ser Gly
    50                  55                  60
Asp Leu Glu Ala Leu Glu Gly Lys Asp Lys Glu Lys Glu Ser Thr Val
65                  70                  75                  80
His Ile Glu Thr His Gln Asn Thr Ser Lys Asn Val Ala Ala Val Gln
            85                  90                  95
Pro Met Lys Arg Gly Gln Lys Ser Lys Met Lys Lys Met Lys Glu Lys
            100                 105                 110
Tyr Lys Asp Gln Asp Glu Glu Asp Arg Glu Leu Ile Met Lys Leu Leu
            115                 120                 125
Gly Ser Ala Gly Ser Asn Lys Glu Glu Lys Gly Lys Lys Gly Lys Lys
        130                 135                 140
Gly Lys Thr Lys Asp Glu Pro Val Lys Lys Gln Pro Gln Lys Pro Arg
145                 150                 155                 160
Gly Gly Gln Arg Val Ser Asp Asn Ile Lys Lys Glu Thr Pro Phe Leu
                165                 170                 175
Glu Val Ile Thr His Glu Leu Gln Asp Phe Ala Val Asp Asp Pro His
            180                 185                 190
Asp Asp Lys Glu Glu Gln Asp Leu Asp Gln Gln Gly Asn Glu Glu Asn
            195                 200                 205
Leu Phe Asp Ser Leu Thr Gly Gln Pro His Pro Glu Asp Val Leu Leu
    210                 215                 220
Phe Ala Ile Pro Ile Cys Ala Pro Tyr Thr Thr Met Thr Asn Tyr Lys
225                 230                 235                 240
Tyr Lys Val Lys Leu Thr Pro Gly Val Gln Lys Lys Gly Lys Ala Ala
            245                 250                 255
Lys Thr Ala Leu Asn Ser Phe Met His Ser Lys Glu Ala Thr Ala Arg
            260                 265                 270
Glu Lys Asp Leu Phe Arg Ser Val Lys Asp Thr Asp Leu Ser Arg Asn
    275                 280                 285
Ile Pro Gly Lys Val Lys Ser Val Cys Thr Gln Ser Ser Glu Arg Lys
    290                 295                 300
Lys Glu Ile Ala Glu Met Lys Phe
305                 310
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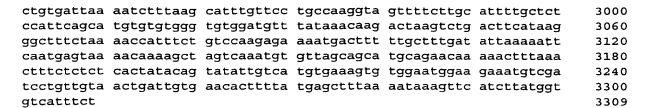
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<210> 582
<211> 3309
<212> DNA
<213> Homo Sapiens

<400> 582
cgcagaccga gacccgaggc ggaggcggac cgcgagccgg ccatgtcggt ggtggggttg    60
gacgtgggct cgcagagctg ctacatcgcg gtagcccggg ccggggcat cgagaccatc    120
gccaatgagt tcagcgaccg gtgcacccg tcagtcatat catttggatc aaaaaataga    180
acaatcggag ttgcagccaa aaatcagcaa atcactcatg caaacaatac ggtgtctaac    240
ttcaaaagat ttcatggccg agcattcaat gacccttca ttcaaaagga gaaggaaaac    300
ttgagttacg atttggttcc attgaaaaat ggtggagttg gaataaaggt aatgtacatg    360
ggtgaagaac atctatttag tgtggagcag ataacagcca tgttgttgac taagctgaag    420
gaaactgctg aaaacagcct caagaaacca gtaacagatt gtgttatttc agtcccctcc    480
ttctttacag atgctgagag gcgatctgtg ttagatgctg cacagattgt tggcctaaac    540
tgtttaagac ttatgaatga catgacagct gttgctttga attacggaat ttataagcag    600
gatctcccaa gcctggatga gaaacctcgg atagtggttt ttgttgatat gggacattca    660
gctttcaag tgtctgcttg tgcttttaac aagggaaat tgaaggtact gggaacagct    720
tttgatcctt tcttaggagg aaaaaacttc gatgaaaagt tagtggaaca ttttgtgca    780
gaatttaaaa ctaagtacaa gttggatgca aaatccaaaa tacgagcact cctacgtctg    840
tatcaggaat gtgaaaaact gaaaaagcta atgagctcta acagcacaga ccttccactg    900
aatatcgaat gctttatgaa tgataaagat gtttccggaa agatgaacag gtcacaattt    960
gaagaactct gtgctgaact tctgcaaaag atagaagtac cctttattc actgttggaa    1020
caaactcatc tcaaagtaga agatgtgagt gcagttgaga ttgttggagg cgctacacga    1080
attccagctg tgaaggaaag aattgccaaa ttctttggaa aagatattag cacaacactc    1140
aatgcagatg aagcagtagc cagaggatgt gcattacagt gtgcaatact ttccccggca    1200
tttaaagtta gagaatttc cgtcacagat gcagttcctt ttccaatatc tctgatctgg    1260
aaccatgatt cagaagatac tgaaggtgtt catgaagtct ttagtcgaaa ccatgctgct    1320
cctttctcca aagttctcac ctttctgaga aggggcctt ttgagctaga agcttttctat    1380
tctgatcccc aaggagttcc atatccagaa gcaaaaatag gccgctttgt agttcagaat    1440
gtttctgcac agaaagatgg agaaaaatct agagtaaaag tcaaagtgcg agtcaacacc    1500
catggcattt tcaccatctc tacggcatct atggtggaga aagtcccaac tgaggagaat    1560
gaaatgtctt ctgaagctga catggagtgt ctgaatcaga gaccaccaga aaacccagac    1620
actgataaaa atgtccagca agacaacagt gaagctggaa cacagcccca ggtacaaact    1680
gatgctcaac aaacctcaca gtctcccct tcacctgaac ttacctcaga agaaacaaaa    1740
atcccagatg ctgacaaagc aaatgaaaaa aaagttgacc agcctccaga agctaaaaag    1800
cccaaaataa aggtggtgaa tgttgagctg cctattgaag ccaacttggt ctggcagtta    1860
gggaaagacc ttcttaacat gtatattgag acagagggta agatgataat gcaagataaa    1920
ttggaaaaag aaaggaatga tgctaaaaat gcagttgagg aatatgtgta tgagttcaga    1980
gacaagctgt gtggaccata tgaaaaattt atatgtgagc aggatcatca aaatttttg    2040
agactcctca cagaaactga agactggctg tatgaagaag gagaggacca agctaaacaa    2100
gcatatgttg acaagttgga agaattaatg aaaattggca ctccagttaa agttcggttt    2160
caggaagctg aagaacggcc aaaaatgttt gaagaactag gacagaggct gcagcattat    2220
gccaagatag cagctgactt cagaaataag gatgagaaat acaaccatat tgatgagtct    2280
gaaatgaaaa aagtggagaa gtctgttaat gaagtgatgg aatggatgaa taatgtcatg    2340
aatgctcagg ctaaaaagag tcttgatcag gatccagttg tacgtgctca ggaaattaaa    2400
acaaaaatca aggaattgaa caacacatgt gaaccgttg taacacaacc gaaaccaaaa    2460
attgaatcac ccaaactgga aagaactcca aatggcccaa atattgataa aaaggaagaa    2520
gatttagaag acaaaaacaa ttttggtgct gaacctccac atcagaatgg tgaatgttac    2580
cctaatgaga aaaattctgt taatatggac ttggactaga taaccttaaa ttggcctatt    2640
ccttcaatta ataaaatatt tttgccatag tatgtgactc tacataacat actgaaacta    2700
tttatatttt cttttttaag gatatttaga aattttgtgt attatatgga aaaagaaaaa    2760
aagcttaagt ctgtagtctt tatgatccta aaagggaaaa ttgccttggt aactttcaga    2820
ttcctgtgga attgtgaatt catactaagc tttctgtgca gtctcaccat ttgcatcact    2880
gaggatgaaa ctgacttttg tcttttggag aaaaaaaact gtactgcttg ttcaagaggg    2940
```

```
ctgtgattaa aatctttaag catttgttcc tgccaaggta gttttcttgc attttgctct    3000
ccattcagca tgtgtgtggg tgtggatgtt tataaacaag actaagtctg acttcataag    3060
ggctttctaa aaccatttct gtccaagaga aaatgacttt ttgctttgat attaaaaatt    3120
caatgagtaa aacaaaagct agtcaaatgt gttagcagca tgcagaacaa aaactttaaa    3180
ctttctctct cactatacag tatattgtca tgtgaaagtg tggaatggaa gaaatgtcga    3240
tcctgttgta actgattgtg aacactttta tgagctttaa aataaagttc atcttatggt    3300
gtcatttct                                                          3309
```

<210> 583
<211> 872
<212> PRT
<213> Homo Sapiens

<400> 583

```
Arg Arg Pro Arg Pro Glu Ala Glu Ala Asp Arg Glu Pro Ala Met Ser
1               5                   10                  15
Val Val Gly Leu Asp Val Gly Ser Gln Ser Cys Tyr Ile Ala Val Ala
            20                  25                  30
Arg Ala Gly Gly Ile Glu Thr Ile Ala Asn Glu Phe Ser Asp Arg Cys
        35                  40                  45
Thr Pro Ser Val Ile Ser Phe Gly Ser Lys Asn Arg Thr Ile Gly Val
    50                  55                  60
Ala Ala Lys Asn Gln Gln Ile Thr His Ala Asn Asn Thr Val Ser Asn
65                  70                  75                  80
Phe Lys Arg Phe His Gly Arg Ala Phe Asn Asp Pro Phe Ile Gln Lys
                85                  90                  95
Glu Lys Glu Asn Leu Ser Tyr Asp Leu Val Pro Leu Lys Asn Gly Gly
            100                 105                 110
Val Gly Ile Lys Val Met Tyr Met Gly Glu Glu His Leu Phe Ser Val
            115                 120                 125
Glu Gln Ile Thr Ala Met Leu Leu Thr Lys Leu Lys Glu Thr Ala Glu
    130                 135                 140
Asn Ser Leu Lys Lys Pro Val Thr Asp Cys Val Ile Ser Val Pro Ser
145                 150                 155                 160
Phe Phe Thr Asp Ala Glu Arg Arg Ser Val Leu Asp Ala Ala Gln Ile
                165                 170                 175
Val Gly Leu Asn Cys Leu Arg Leu Met Asn Asp Met Thr Ala Val Ala
            180                 185                 190
Leu Asn Tyr Gly Ile Tyr Lys Gln Asp Leu Pro Ser Leu Asp Glu Lys
        195                 200                 205
Pro Arg Ile Val Val Phe Val Asp Met Gly His Ser Ala Phe Gln Val
    210                 215                 220
Ser Ala Cys Ala Phe Asn Lys Gly Lys Leu Lys Val Leu Gly Thr Ala
225                 230                 235                 240
Phe Asp Pro Phe Leu Gly Gly Lys Asn Phe Asp Glu Lys Leu Val Glu
                245                 250                 255
His Phe Cys Ala Glu Phe Lys Thr Lys Tyr Lys Leu Asp Ala Lys Ser
            260                 265                 270
Lys Ile Arg Ala Leu Leu Arg Leu Tyr Gln Glu Cys Glu Lys Leu Lys
        275                 280                 285
Lys Leu Met Ser Ser Asn Ser Thr Asp Leu Pro Leu Asn Ile Glu Cys
    290                 295                 300
Phe Met Asn Asp Lys Asp Val Ser Gly Lys Met Asn Arg Ser Gln Phe
305                 310                 315                 320
Glu Glu Leu Cys Ala Glu Leu Leu Gln Lys Ile Glu Val Pro Leu Tyr
```

```
                        325                     330                     335
     Ser Leu Leu Glu Gln Thr His Leu Lys Val Glu Asp Val Ser Ala Val
                        340                     345                     350
     Glu Ile Val Gly Gly Ala Thr Arg Ile Pro Ala Val Lys Glu Arg Ile
                        355                     360                     365
     Ala Lys Phe Phe Gly Lys Asp Ile Ser Thr Thr Leu Asn Ala Asp Glu
                        370                     375                     380
     Ala Val Ala Arg Gly Cys Ala Leu Gln Cys Ala Ile Leu Ser Pro Ala
     385                     390                     395                     400
     Phe Lys Val Arg Glu Phe Ser Val Thr Asp Ala Val Pro Phe Pro Ile
                        405                     410                     415
     Ser Leu Ile Trp Asn His Asp Ser Glu Asp Thr Glu Gly Val His Glu
                        420                     425                     430
     Val Phe Ser Arg Asn His Ala Ala Pro Phe Ser Lys Val Leu Thr Phe
                        435                     440                     445
     Leu Arg Arg Gly Pro Phe Glu Leu Glu Ala Phe Tyr Ser Asp Pro Gln
                        450                     455                     460
     Gly Val Pro Tyr Pro Glu Ala Lys Ile Gly Arg Phe Val Val Gln Asn
     465                     470                     475                     480
     Val Ser Ala Gln Lys Asp Gly Glu Lys Ser Arg Val Lys Val Lys Val
                        485                     490                     495
     Arg Val Asn Thr His Gly Ile Phe Thr Ile Ser Thr Ala Ser Met Val
                        500                     505                     510
     Glu Lys Val Pro Thr Glu Asn Glu Met Ser Ser Glu Ala Asp Met
                        515                     520                     525
     Glu Cys Leu Asn Gln Arg Pro Pro Glu Asn Pro Asp Thr Asp Lys Asn
                        530                     535                     540
     Val Gln Gln Asp Asn Ser Glu Ala Gly Thr Gln Pro Gln Val Gln Thr
     545                     550                     555                     560
     Asp Ala Gln Gln Thr Ser Gln Ser Pro Pro Ser Pro Glu Leu Thr Ser
                        565                     570                     575
     Glu Glu Asn Lys Ile Pro Asp Ala Asp Lys Ala Asn Glu Lys Lys Val
                        580                     585                     590
     Asp Gln Pro Pro Glu Ala Lys Lys Pro Lys Ile Lys Val Val Asn Val
                        595                     600                     605
     Glu Leu Pro Ile Glu Ala Asn Leu Val Trp Gln Leu Gly Lys Asp Leu
                        610                     615                     620
     Leu Asn Met Tyr Ile Glu Thr Glu Gly Lys Met Ile Met Gln Asp Lys
     625                     630                     635                     640
     Leu Glu Lys Glu Arg Asn Asp Ala Lys Asn Ala Val Glu Glu Tyr Val
                        645                     650                     655
     Tyr Glu Phe Arg Asp Lys Leu Cys Gly Pro Tyr Glu Lys Phe Ile Cys
                        660                     665                     670
     Glu Gln Asp His Gln Asn Phe Leu Arg Leu Leu Thr Glu Thr Glu Asp
                        675                     680                     685
     Trp Leu Tyr Glu Glu Gly Glu Asp Gln Ala Lys Gln Ala Tyr Val Asp
                        690                     695                     700
     Lys Leu Glu Glu Leu Met Lys Ile Gly Thr Pro Val Lys Val Arg Phe
     705                     710                     715                     720
     Gln Glu Ala Glu Glu Arg Pro Lys Met Phe Glu Glu Leu Gly Gln Arg
                        725                     730                     735
     Leu Gln His Tyr Ala Lys Ile Ala Ala Asp Phe Arg Asn Lys Asp Glu
                        740                     745                     750
     Lys Tyr Asn His Ile Asp Glu Ser Glu Met Lys Lys Val Glu Lys Ser
                        755                     760                     765
```

```
Val Asn Glu Val Met Glu Trp Met Asn Asn Val Met Asn Ala Gln Ala
    770             775             780
Lys Lys Ser Leu Asp Gln Asp Pro Val Val Arg Ala Gln Glu Ile Lys
785             790             795                 800
Thr Lys Ile Lys Glu Leu Asn Asn Thr Cys Glu Pro Val Val Thr Gln
            805             810             815
Pro Lys Pro Lys Ile Glu Ser Pro Lys Leu Glu Arg Thr Pro Asn Gly
            820             825             830
Pro Asn Ile Asp Lys Lys Glu Glu Asp Leu Glu Asp Lys Asn Asn Phe
        835             840             845
Gly Ala Glu Pro Pro His Gln Asn Gly Glu Cys Tyr Pro Asn Glu Lys
    850             855             860
Asn Ser Val Asn Met Asp Leu Asp
865             870
```

```
<210> 584
<211> 2918
<212> DNA
<213> Homo Sapiens

<400> 584
ataactggag ctcgcgcgcc tgcaggtcga cactagtgga tccaaagaat tcggcacgag      60
gtgacgacaa cagggacaag gactccgaga agaccaagag gtggtccaag cccaggaagc     120
gctccctgat ggagatggag gggaaggagg atgccctta aggtgctgaa gtgcatgtac     180
tgtggacact cctttgagtc cttgcaggac ctcagcgtcc acatgatcaa aaccaagcat     240
taccagaaag tgcctctgaa ggagccagtg ccagccatca ccaaactggt cccctccacc     300
aaaaagcggg cgcttcagga cctggcgccc ccctgctccc ctgagccagc aggaatggcc     360
gcagaggtgg ccctgagtga gtcagccaag gatcagaaag cagcgaaccc gtacgtcacg     420
cccaataacc gctatggcta ccagaatggc gccagctaca cctggcagtt tgaggcccgc     480
aaggcgcaga tcctcaagtg catggagtgt ggcagctccc acgacacgct gcagcagctc     540
accgcccaca tgatggtcac cgggcacttc ctgaaagtga ccacctcggc ttctaagaag     600
ggcaagcagt tggtgctgga ccctgtggtg aagagaaga tccagtccat cccactaccg     660
cccaccaccc acacgcggct gccggcctcc agcatcaaaa agcagcccga ctctcccgcg     720
gggtccacga cttctgaaga aaagaaagag ccagagaagg agaagccgcc tgtggctggc     780
gacgcggaga agatcaagga ggagagtgag gacagcttgg agaaatttga gcccagcacc     840
ctgtacccgt acctgcgtga ggaggacctg gacgacagcc caagggagg gctggacatt     900
ctcaagtccc tggagaatac cgtctccacg gccattagca agctcagaa tggtgcgccc     960
tcatggggtg gctacccag catccatgca gcctaccagc tcccgggcac cgtgaagcca    1020
ctgccggcgg ccgtgcagag cgtgcaggtg cagccgtcct atgctggcgg cgtgaagtcg    1080
ctgtcttccg ccgagcacaa cgccctcctg cactccccag ggagcctcac gccccaccg    1140
cacaagagca acgtgtctgc catggaggag ctggtggaga aggtcacggg caaggtcaac    1200
atcaagaagg aggagagacc ccctgagaag gagaagagct ccctggccaa ggctgcgtcc    1260
cccatagcaa aagagaataa agatttcccg aaaacggagg aagtcagcgg caaaccacag    1320
aagaagggcc ctgaggccga gacttgggaa gccaaaaagg agggaccgct ggacgttcac    1380
accccaaatg gcacagagcc tctcaaagca aaggtcacca acggctgtaa caacctgggg    1440
atcatcatgg accactcacc ggagccttcc ttcatcaacc cgctgagcgc tttgcagtcc    1500
atcatgaaca cccacctggg caaggtgtcc aagcccgtga gtccctcgct ggacccgctg    1560
gcgatgctgt acaagatcag caacagcatg ctggacaagc cggtgtaccc cgccaccct    1620
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ttaaccaagt ccaagaacaa gccgctggtg tccagcgtgg ctgattcggt ggcatcacct    1740
ctgcgggaga gcgcactcat ggacatctcc gacatggtga aaaacctcac aggccgcctg    1800
acgcccaagt cctccacgcc ctccacagtt tcagagaagt ccgatgctga tggcagcagc    1860
tttgaggagg cgttggacga gctgtcaccg tccacaaga ggaagggccg gcagtccaac    1920
tggaacccgc agcaccttct catcctgcag gcccagttcg cctcgagctt gcgggagacc    1980
acagaaggca agtacatcat gtcggacttg ggcccgcagg agagggtgca catctcgaag    2040
```

```
tttactgggc tctccatgac caccatcagc cactggctgg ccaatgtgaa gtaccagttg   2100
aggaggacag ggggaacgaa attcctaaag aacctggaca cagggcatcc tgttttcttt   2160
tgcaacgatt gtgcctctca gttcagaact gcttctacat acataagtca tttggagaca   2220
cacttgggct tcagcctgaa ggatctctcc aagctgccac tcaatcagat tcaagaacag   2280
cagaatgttt cgaaagtcct caccaacaaa actctgggcc cactggggc caccgaggaa   2340
gacttgggct ccacattcca atgtaagctc tgcaaccgga cttttgcgaa gcaagcacgc   2400
agtcaaactg caccttagta agacccacgg caagtctccc gaggaccacc tgatctatgt   2460
gactgagttg gagaaacagt agcgtccagg tatgcaagag accgcggaac attgcactaa   2520
acgtcgtcga gctgcactag gcatggcctg agcctctgaa atcagtcttt cctttgttgc   2580
tggcccgcct ctctggacct tggttttcct acacatattt tgtatattta tatgcttct   2640
gtccgatctg tgcatgttat ttttcttttt ccgtgagtca aagtctgacc tttattttca   2700
acatctgttt ttggtgttaa gctatctttt gtaggaaata gtggggcaca ctactcagag   2760
acattattta gcagtaaaga aagacacaaa taacaatgat aaaaagacat cctaaaatgg   2820
tgaagttgcc atgacaataa aggtcataga acctggtagt gtcaaattta accctttgag   2880
gactgtaatt gcattctgt gcctttcact tgaaaaaa                            2918
```

```
<210> 585
<211> 687
<212> PRT
<213> Homo Sapiens


<400> 585
Met Ala Ala Glu Val Ala Leu Ser Glu Ser Ala Lys Asp Gln Lys Ala
1               5                   10                  15
Ala Asn Pro Tyr Val Thr Pro Asn Asn Arg Tyr Gly Tyr Gln Asn Gly
            20                  25                  30
Ala Ser Tyr Thr Trp Gln Phe Glu Ala Arg Lys Ala Gln Ile Leu Lys
        35                  40                  45
Cys Met Glu Cys Gly Ser Ser His Asp Thr Leu Gln Gln Leu Thr Ala
    50                  55                  60
His Met Met Val Thr Gly His Phe Leu Lys Val Thr Thr Ser Ala Ser
65                  70                  75                  80
Lys Lys Gly Lys Gln Leu Val Leu Asp Pro Val Val Glu Glu Lys Ile
                85                  90                  95
Gln Ser Ile Pro Leu Pro Pro Thr Thr His Thr Arg Leu Pro Ala Ser
            100                 105                 110
Ser Ile Lys Lys Gln Pro Asp Ser Pro Ala Gly Ser Thr Thr Ser Glu
        115                 120                 125
Glu Lys Lys Glu Pro Glu Lys Glu Lys Pro Pro Val Ala Gly Asp Ala
    130                 135                 140
Glu Lys Ile Lys Glu Glu Ser Glu Asp Ser Leu Glu Lys Phe Glu Pro
145                 150                 155                 160
Ser Thr Leu Tyr Pro Tyr Leu Arg Glu Glu Asp Leu Asp Asp Ser Pro
                165                 170                 175
Lys Gly Gly Leu Asp Ile Leu Lys Ser Leu Glu Asn Thr Val Ser Thr
            180                 185                 190
Ala Ile Ser Lys Ala Gln Asn Gly Ala Pro Ser Trp Gly Gly Tyr Pro
        195                 200                 205
Ser Ile His Ala Ala Tyr Gln Leu Pro Gly Thr Val Lys Pro Leu Pro
    210                 215                 220
Ala Ala Val Gln Ser Val Gln Val Gln Pro Ser Tyr Ala Gly Gly Val
225                 230                 235                 240
Lys Ser Leu Ser Ser Ala Glu His Asn Ala Leu Leu His Ser Pro Gly
                245                 250                 255
Ser Leu Thr Pro Pro Pro His Lys Ser Asn Val Ser Ala Met Glu Glu
```

-314-

```
                260                 265                 270
Leu Val Glu Lys Val Thr Gly Lys Val Asn Ile Lys Lys Glu Glu Arg
            275                 280                 285
Pro Pro Glu Lys Glu Lys Ser Ser Leu Ala Lys Ala Ala Ser Pro Ile
            290                 295                 300
Ala Lys Glu Asn Lys Asp Phe Pro Lys Thr Glu Glu Val Ser Gly Lys
305                 310                 315                 320
Pro Gln Lys Lys Gly Pro Glu Ala Glu Thr Trp Glu Ala Lys Lys Glu
            325                 330                 335
Gly Pro Leu Asp Val His Thr Pro Asn Gly Thr Glu Pro Leu Lys Ala
            340                 345                 350
Lys Val Thr Asn Gly Cys Asn Asn Leu Gly Ile Ile Met Asp His Ser
            355                 360                 365
Pro Glu Pro Ser Phe Ile Asn Pro Leu Ser Ala Leu Gln Ser Ile Met
            370                 375                 380
Asn Thr His Leu Gly Lys Val Ser Lys Pro Val Ser Pro Ser Leu Asp
385                 390                 395                 400
Pro Leu Ala Met Leu Tyr Lys Ile Ser Asn Ser Met Leu Asp Lys Pro
            405                 410                 415
Val Tyr Pro Ala Thr Pro Val Lys Gln Ala Asp Ala Ile Asp Arg Tyr
            420                 425                 430
Tyr Tyr Glu Asn Ser Asp Gln Pro Ile Asp Leu Thr Lys Ser Lys Asn
            435                 440                 445
Lys Pro Leu Val Ser Ser Val Ala Asp Ser Val Ala Ser Pro Leu Arg
450                 455                 460
Glu Ser Ala Leu Met Asp Ile Ser Asp Met Val Lys Asn Leu Thr Gly
465                 470                 475                 480
Arg Leu Thr Pro Lys Ser Ser Thr Pro Ser Thr Val Ser Glu Lys Ser
            485                 490                 495
Asp Ala Asp Gly Ser Ser Phe Glu Glu Ala Leu Asp Glu Leu Ser Pro
            500                 505                 510
Val His Lys Arg Lys Gly Arg Gln Ser Asn Trp Asn Pro Gln His Leu
            515                 520                 525
Leu Ile Leu Gln Ala Gln Phe Ala Ser Ser Leu Arg Glu Thr Thr Glu
            530                 535                 540
Gly Lys Tyr Ile Met Ser Asp Leu Gly Pro Gln Glu Arg Val His Ile
545                 550                 555                 560
Ser Lys Phe Thr Gly Leu Ser Met Thr Thr Ile Ser His Trp Leu Ala
            565                 570                 575
Asn Val Lys Tyr Gln Leu Arg Arg Thr Gly Gly Thr Lys Phe Leu Lys
            580                 585                 590
Asn Leu Asp Thr Gly His Pro Val Phe Phe Cys Asn Asp Cys Ala Ser
            595                 600                 605
Gln Phe Arg Thr Ala Ser Thr Tyr Ile Ser His Leu Glu Thr His Leu
610                 615                 620
Gly Phe Ser Leu Lys Asp Leu Ser Lys Leu Pro Leu Asn Gln Ile Gln
625                 630                 635                 640
Glu Gln Gln Asn Val Ser Lys Val Leu Thr Asn Lys Thr Leu Gly Pro
            645                 650                 655
Leu Gly Ala Thr Glu Glu Asp Leu Gly Ser Thr Phe Gln Cys Lys Leu
            660                 665                 670
Cys Asn Arg Thr Phe Ala Lys Gln Ala Arg Ser Gln Thr Ala Pro
            675                 680                 685

        <210> 586
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●

●

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        <211> 1898
        <212> DNA
        <213> Homo Sapiens

        <400> 586
ccgccttggg tcagcctgct cccctgcttc ctgccgcagt gggggccgtc agcctggcca      60
cctccagct  cccaagccca ccctggggc  ccaccgtccc cccacagcca ccctcggccc     120
tggagtcgga tggggaaggg ccgcccccca gggtgggctt tgtggacagc accatcaaga     180
gcctggacga naagctgcgg actctgctct accaggagca cgtgcccacc tcctcagcct     240
cagctgggac ccctgtggag gtgggcgaca ganacttcac cctggagccc ctgagagggg     300
accagccccg ctcanaggtc tgcggggggg acctggccct gcccccagtg cctaaggagg     360
cggtctcagg gcgtgtccag ctgccccagc ccttggtgga gaagtcagaa ctggccccca     420
ctcgaggggc cgtgatggag cagggcacgt cctcgtcaat gacagagtcg tctcccagga     480
gtatgctagg ctatgacaga gatggaaggc aggtggcctc agactcccat gtggtcccca     540
gcgtccccca ggatgtacct gcttttgtga gacctgcacg tgtggancccc acanacaggg     600
atggtggana agctggganaa agctcggcan agcccccgcc gagtgacatg ggcanngtgg     660
ggggccaggc tagccacccc cagacactcg gcnctcgagc tttggggtcc cctcggaanc     720
gtccagatca ccaggatgtc agctcaccag ccaagactgt gggccgtttc tcggtggtca     780
gcactcagga cgagtggacc ctggcctccc cccacagcct gagatactct gccccacccg     840
acgtctacct ggacgaggcc ccctccagcc cgacgtgaa  gctggcagtg cggcgggcgc     900
agacggcctc ctccatcgag gtcggcgtgg gcgagccgt  gtccagcgac tctggggacg     960
agggccctcg ggcgagaccc ccggtgcaga agcaggcgtc cctgccgtg  agtggcagcg    1020
tggctggcga cttcgtgaag aaggccaccg cttcctgcag aggccttctc gggccggctt    1080
cgctgggccc cgagacaccc agcagggtgg gcatgaaggt ccccacgatc agcgtgacct    1140
ccttccattc ccagtcgtcc tacatcagca gcgacaatga ttcggagctc gaggatgctg    1200
acataaagaa ggagctgcan agtctgcggg agaagcacct gaaggagatc tcggagctgc    1260
agagccagca gaagcaggag atcgaagctc tgtnccgccg cctgggcaag ccactgcccc    1320
ccaacgtggg cttcttccac acggcacccc ccactggccg ccgganaaaa accancaaga    1380
ncaagctgaa ngcaggcaag ctgctaaatc ccctggtgcg gcagctcaag gtcgtggcct    1440
ccaacacagg tcacttggct gactccanca naagccctcc cgctaangac ctgcccnagc    1500
cagtgtgggg ctcactgcan acaacacggg cctgaacggg aangcagtgc anaccancan    1560
ccctgctccg tccggggctc cctgtcttcn gacatctgct ccggcttacc antgatggaa    1620
gcggaacgcg tngncaangg tcctccacca acaacctggc ccaggcctga accaagcccc    1680
acccgccctg cacgtccaag cgcangtgaa caacancaac nacaagaaag gttcttcncc    1740
gacgaactgc acaanctggt ggacnaatgg acaacaanan ngtgggggc  gcgcactgaa    1800
acccacnctc naccccctnaa ncnnaaccnc aacttccana cattgaggcc cgcaggtggg    1860
ctgccctggc naagcccggc tttnacccccc ctccaaca                          1898

        <210> 587
        <211> 399
        <212> PRT
        <213> Homo Sapiens

        <400> 587
Ala Leu Gly Gln Pro Ala Pro Leu Leu Pro Ala Ala Val Gly Ala Val
1               5                  10                  15
Ser Leu Ala Thr Ser Gln Leu Pro Ser Pro Pro Leu Gly Pro Thr Val
            20                  25                  30
Pro Pro Gln Pro Pro Ser Ala Leu Glu Ser Asp Gly Glu Gly Pro Pro
            35                  40                  45
Pro Arg Val Gly Phe Val Asp Ser Thr Ile Lys Ser Leu Asp Lys Leu
        50                  55                  60
Arg Thr Leu Leu Tyr Gln Glu His Val Pro Thr Ser Ser Ala Ser Ala
65                  70                  75                  80
Gly Thr Pro Val Glu Val Gly Asp Arg Phe Thr Leu Glu Pro Leu Arg
```

```
                    85                   90                   95
Gly Asp Gln Pro Arg Ser Val Cys Gly Gly Asp Leu Ala Leu Pro Pro
                   100                  105                  110
Val Pro Lys Glu Ala Val Ser Gly Arg Val Gln Leu Pro Gln Pro Leu
                   115                  120                  125
Val Glu Lys Ser Glu Leu Ala Pro Thr Arg Gly Ala Val Met Glu Gln
                   130                  135                  140
Gly Thr Ser Ser Ser Met Thr Glu Ser Ser Pro Arg Ser Met Leu Gly
145                  150                  155                  160
Tyr Asp Arg Asp Gly Arg Gln Val Ala Ser Asp Ser His Val Val Pro
                   165                  170                  175
Ser Val Pro Gln Asp Val Pro Ala Phe Val Arg Pro Ala Arg Val Pro
                   180                  185                  190
Thr Arg Asp Gly Gly Ala Gly Ser Ser Ala Pro Pro Pro Ser Asp Met
                   195                  200                  205
Gly Val Gly Gly Gln Ala Ser His Pro Gln Thr Leu Gly Arg Ala Leu
                   210                  215                  220
Gly Ser Pro Arg Arg Pro Asp His Gln Asp Val Ser Ser Pro Ala Lys
225                  230                  235                  240
Thr Val Gly Arg Phe Ser Val Val Ser Thr Gln Asp Glu Trp Thr Leu
                   245                  250                  255
Ala Ser Pro His Ser Leu Arg Tyr Ser Ala Pro Pro Asp Val Tyr Leu
                   260                  265                  270
Asp Glu Ala Pro Ser Ser Pro Asp Val Lys Leu Ala Val Arg Arg Ala
                   275                  280                  285
Gln Thr Ala Ser Ser Ile Glu Val Gly Val Gly Glu Pro Val Ser Ser
                   290                  295                  300
Asp Ser Gly Asp Glu Gly Pro Arg Ala Arg Pro Pro Val Gln Lys Gln
305                  310                  315                  320
Ala Ser Leu Pro Val Ser Gly Ser Val Ala Gly Asp Phe Val Lys Lys
                   325                  330                  335
Ala Thr Ala Ser Cys Arg Gly Leu Leu Gly Pro Ala Ser Leu Gly Pro
                   340                  345                  350
Glu Thr Pro Ser Arg Val Gly Met Lys Val Pro Thr Ile Ser Val Thr
                   355                  360                  365
Ser Phe His Ser Gln Ser Ser Tyr Ile Ser Ser Asp Asn Asp Ser Glu
370                  375                  380
Leu Glu Asp Ala Asp Ile Lys Lys Glu Leu Ser Leu Arg Glu Lys
385                  390                  395
```

```
<210> 588
<211> 707
<212> DNA
<213> Homo Sapiens

<400> 588
agatggcgcc tgttgtgaca gggaaatttg gtgagcggcc tccacctaaa cgacttacta    60
gggaagctat gcgaaattat ttaaaagagc gaggggatca aacagtnctt attcttcatg   120
caaaagttgc acagaagtca tatggaaatg aaanaaggtt tttttgccca cctccttgtg   180
tatatcttat gggcantgga tggaagaaaa aaaangaaca aatggaacgc gatggttgtt   240
ctgaacaaaa gtctcaaccg tgtgcattta ttgggatagg aaatagtgac caaaaaatgc   300
agcagctana cttggaagga aagaactatt gcacagccaa aacattgtat atatctgact   360
cagacaagcg aaagcacttc atgttgtctg taaagatgtt ctatggcaac agtgatgaca   420
ttggtgtgtt cctcagcaag cgaataaaag tcntctccaa accttccaaa aagaacagtc   480
attgaaaaat gctgacttat gcattgcctc angaacaaag gtggctctgt ttaatcgact   540
```

```
acnatcccan acagttagta ccagatactt gcatgttana aggaggtnat tttcatgcca      600
gttcacagcn gtggggagcc tttttttattc anctcttgga tgatgatgan tccnaaggag      660
aagaattcac ngtccgagat ggctacatcc attatggaca aacagtc                    707
```

        <210> 589
        <211> 551
        <212> DNA
        <213> Homo Sapiens

        <400> 589
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actgtggctt ctgcatttca aatcagcact tgcagggaga caacggggtt tttgaatagt       60
atcacctggt atgaaaagtt ttcccaagaa accacaaacg attgttcatt ttttctcctt      120
ttttgttaac tttttgccac actcaagtca gtttaagtcc tagcaaaaag acggtagtta      180
ggataccact gtggctgtan atgatgtgac actggttgaa tttgtgctgg cgtttgtgta      240
acttccctcg ctgtttgtgt ttgattcgtt aggggcacc tggcttgaat tggctcgaag      300
gattgctcct gctgcactgc aatgtggccg cggccctggt tctggtgtgt angtaaaggt      360
aaggctggtg gaataaatga ttccaccatt tcggaccaaa gttactggaa cctggactgg      420
ttgccggacc catctccaac cttctcggaa tgcanaaatg tctgggacga cacagaacat      480
acctctccac acctgtacat aatttcagct tctacatccc caaaccacac tcgtaaattt      540
ggantnaaaa t                                                          551
```

        <210> 590
        <211> 478
        <212> DNA
        <213> Homo Sapiens

        <400> 590
```
actgtggctt ctgcatttca aatcagcact tgcagggana caacggggtt tttgaatagt       60
atcacctggt atgaaaagtt ttcccaagaa accacaaacn attgttcatt ttttctcctt      120
ttttgttaac tttttngccac actcaantca gtttaagtcc tagcaaaaan acggtagtta      180
ggataccact gtggctgtaa atgatntgac actggttgaa tttgtgctgg cgtttgtgta      240
acttccctcg ctgtttgtgt ttgattcgtn aggggcacc tggcttgaat tggctcgaag      300
gattgctcct gctgcactgc aatgtggccg cgggcctgnt tcttatntgt tgtaaangtn      360
aggntggtgg aataaatgat tccatcatnt cggancgaag ttgctgggaa ctggganngg      420
tngncggaac catctccgac cncccggaaa ngcagaagtg ttngtggnag accggaac       478
```

        <210> 591
        <211> 707
        <212> DNA
        <213> Homo Sapiens

        <400> 591
```
actgtggctt ctgcatttca aatcagcact tgcagggaga caacggggtt tttgaatagt       60
atcacctggt atgaaaagtt ttcccaanaa accacaaacg attgttcatt ttttctcctt      120
ttttgttaac tttttgccac actcaantca gtttaantcc tancaaaaag acggtagtta      180
ggataccact gtggctgtaa atgatgtgac actggttgaa tttgtgctgg cgtttgtgta      240
acttccctcg ctgtttgtgt ttgattcgtt aggggcacc tggcttgaat tggctcgaag      300
gattgctcct gctgcactgc aatgtggccg cggccctggt tctggtgtgt aggtaaaggt      360
aaggctggtg gaataaatga ttccatcatt tcggaccaaa gttactggaa cctggactgg      420
ttgccggacc catctccaac cttctcggaa tgcagaaatg tctgggacga cacagancat      480
actctctcca cacctgtaca tagtttcngc ttctacatcc ccaaaccaca ctcgtaaatt      540
tggantgaaa ttctgtcctg taagttcaag cattnctacg tccccacccg ccatttcaac      600
tgaaaggctc tctaccacan ggnacaggaa atgactgggg caaggacagg gcccattccc      660
tcattaaatg tnatactccg ccttatcngt cctaaangaa tgtncaa                    707
```

```
<210> 592
<211> 541
<212> DNA
<213> Homo Sapiens

<400> 592
ggtaaacttt tggccacncn caattcantt taattcctac caaaaaaacg gtatttagna    60
tnccnctgtg gctgtaaata atttaacnct ggttaaattn ntnctggctt tngtntanct   120
cccccccctn ttngtttttn atccnttagg gggcacctgn cttnantngg cncaaaggat   180
ngccctgct gcantgcaat ttggccncgg ccctggtcct ggtttntagg taaaggtaag    240
gcnggtgnaa taantaatcc caccattncg naccaaattt actgnaacct gaacnggttg   300
ccgnacccan cnccancctn cncgaaatgc aaaantttct ggnacaacnc aaaccntacn   360
cncnccaccc ctntncntat ttncagctnc tacntcccca aaccacacnc ntaaattngn   420
attaaaatcc tntcctgtaa ttccaagcat ggctacttcc ccaccgccat tcaactnaag   480
gcccnctacc acaggcncag nattaantgg ggcaaggaaa gggcccatcc ccccataaaa   540
t                                                                   541


<210> 593
<211> 605
<212> DNA
<213> Homo Sapiens

<400> 593
actgtggctt ctgcatttca aatcagcact tgcagggana caacggggtt tttgaatant    60
atcacctggt atgaaaagtt ttcccaanaa accacaaacn antgttcatt tttnctcctt   120
ttttgttaac tttttgccac actcaantca gtttaantcc tagcaaaaaa acggtagtta   180
ggataccact gtggctgtaa atgatgtnac actggttgaa tttgtgctgg cgtttgtgtn   240
acttccctcg ctgtttgtgt ttgattcgtt aggggcacc tggcttgaat tggctcgaan   300
gattgctcct gctgcactgc aatgtggccg cggccctggt tctggtgtgt aagtaaaggt   360
aaggctggtg gaataaatga ttccntcatt tcggancaaa gttactggaa cctggantgg   420
ttgncggacc atctccaacc ttctcggaat gcanaaatgt ctgggacaan acnnaacata   480
ctctctccnc acctggttca tantttcagc ttctacatcc cccaaaccac actcntaaat   540
ttggantgaa attctgtcct gttaattcaa acattgctac gtccccnccg ccattcaact   600
gaaag                                                               605


<210> 594
<211> 666
<212> DNA
<213> Homo Sapiens

<400> 594
gaagagtttg tggaagatgg cgcctgttgt gacagggaaa tttggtgagc ggcctccacc    60
taaacgactt actagggaag ctatgcgaaa ttatttaaaa gagcgagggg atcaaacagt   120
acttattctt catgcaaaag ttgcacagaa gtcatatgga aatgaaaaaa ggttttttg    180
cccacctcct tgtgtatatc ttatgggcag tggatggaag aaaaaaaaag aacaaatgga   240
acgcgatggt tgttctgaac aagagtctca accgtgtgca tttattggga taggaaatag   300
tgaccaagaa atgcagcagc taaacttgga aggaaagaac tattgcacag ccaaaacatt   360
gtatatatct gactcagaca agcgaaagca cttcatgttg tctgtaaaga tgttctatgg   420
caacagtgat gacattggtg tgttcctcan caagcggata aaagtcatct ccaaaccttc   480
caaaaagaac agtcattgaa aaatgctgac ttatgcattg cctcaggaac aaaggtggct   540
ctgtttaatc gactacgatc ccagacagtt ngtaccagat acttgcatgt anaaggaggt   600
aattttccat gccagttccc accagtgggg agccttttt attcnctctt gggatgatga   660
tgaatc                                                              666


<210> 595
```

```
<211> 600
<212> DNA
<213> Homo Sapiens

<400> 595
gccacactca agtcagttta agtcctagca aaaagacggt agttaggata ccactgtggc    60
tgtanatgat gtgacactgg ttgaatttgt gctggcgttt gtgtaacttc cctcgctgtt   120
tgtgtttgat tcgttagggg gcacctggct tgaattggct cgaaggattg ctcctgctgc   180
actgcaatgt ggccgcggcc ctggttctgg tgtgtaggta aaggtaaggc tggtggaata   240
aatgattcca tcatttcgga ccaaagttac tggaacctgg actggttgcc ggacccatct   300
ccaaccttct cggaatgcag aaatgtctgg gacgacacag ancatactct ctccacacct   360
gtacatagtt tcagcttcta catccccaaa ccacactcgt aaatttggag tgaaattctg   420
tcctgtaagt tcaagcattg ctacgtcccc accgccattc aactgaaggc tctctaccac   480
aggcacagga atgactgggg caaggacagg gcccattccc tncataaaat gtntaatttg   540
gggncaantg tggcccccaa ccccccccca aagggcatna tttaacnccn ctttaattgg   600


<210> 596
<211> 835
<212> DNA
<213> Homo Sapiens

<400> 596
actgtggctt ctgcatttca aatcagcact tgcagggaga caacggggtt tttgaatagt    60
atcacctggt atgaaaagtt ttcccaanaa accacaaacn attgttcatt ttttctcctt   120
ttttgttaac tttttgccac actcaantca gtttaagtcc tagcaaaaan acggtagtta   180
ggataccact gtggctgtaa atnatgtgac actggttgaa tttgtgctgg cgtttgtgta   240
acttccctcg ctgtttgtgt ttgattcgtt aggggggcacc tggcttgaat tggctcgaag   300
gattgctcct gctgcactgc aatgtggccg cggccctggt tctggtgtgt aggtaaaggt   360
aaggctggtg gaataaatga ttccatcatt tcggaccaaa gttactggaa cctggactgg   420
ttgccggacc catctccaac cttctcggaa tgcagaaatg tctgggacga cacanancat   480
actctctcca cacctgtaca tagtttcagc ttctacatcc ccaaaccaca ctcgtaaatt   540
tggagtgaaa ttctgtcctg taagttcaag cattgctacg tccccaccgc cattcaactg   600
aaggcctcta cacaggcaca ggaatgactg gggcaaggan agggcccatt ccctcataaa   660
atgtatactc tgccttatct gtgctaatga ttgtccagga aacgccanca ttttaccacc   720
tcnttattgg ttcttttggg antggaatgg cctgaaattg aaatattctt ccttgaaaaa   780
aggccaaata cntcttctgt ttccttnaag ggtaaaatgc ccattttttgg aattg        835


<210> 597
<211> 443
<212> DNA
<213> Homo Sapiens

<400> 597
agcagttcga atgccaggaa actgctcgag tgccaggtgc aggtgggggc ccccgaggag    60
gaggaggagg aggaggagga cgcgggcctg gtggccgagg ccgangccgt ggctgccggc   120
tggatgctcg atttcctctg cctctctctt tgccgagctt tccgcnacgg ccgctccgag   180
gacttccncn ggacccgcaa cagcgcanag gctattattc atggactatc cagtctaaca   240
gcttgccagt gagaacgata tacatatgtc agtttttgac aagaattgca gcaggaaaaa   300
ccccttgatgc ncagtttgaa aatgatgaac gaattacacc cttggaatcn gccctgatga   360
tttggggttc aattgaaaag gaacatgacn aacttcntga agaaatacag aatttaatta   420
aaattcangc tatngctgtt tgt                                            443


<210> 598
<211> 491
<212> DNA
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```
<213> Homo Sapiens

<400> 598
gtactttgag gagttcctac tcttctttct ttcttattaa ggtcttgttg ctgggttcca      60
tgttgcaact tagataanaa aagattcttg tgagacctca ataaggatac tgtaccctct     120
gaggattcag ttaccgcaga ctgtttgtca ctaacacttt ttcttgtatc caaattagct     180
tcagtttcca tttcaacatc attaccacta ggtttatctt gagaagttat tgttcttgtc     240
cttttgcttt ctactacttt tgccgctgcc ttcattagaa aggttgatga tttttcactt     300
agcacataat tcacataact cttaattttc tccatcatgt ggttgtagct gaagtgttga     360
aaaaaggaat gaaatgtatc tttctgagan attatcataa gcaatttgct tttgaaaggc     420
atatgagaat ttggatcacc aaatattctt tcaaagactt cttctgcttc tttaaagttg     480
ccattttcca t                                                         491


<210> 599
<211> 802
<212> DNA
<213> Homo Sapiens

<400> 599
gtactttgag gagttcctac tcttctttct ttcttattaa ggtcttgttg ctgggttcca      60
tgttgcaact taaataagaa aagattcttg tgagacctca ataaggatac tgtaccctct     120
gaggattcag ttaccgcaga ctgtttgtca ctaacacttt ttcttgtatc caaattagct     180
tcagtttcca tttcaacatc attaccacta ggtttatctt gagaagttat tgttcttgtc     240
cttttgcttt ctactacttt tgccgctgcc ttcattagaa aggttgatga tttttcactt     300
agcacataat tcacataact cttaattttc tccatcatgt ggttgtagct gaagtgttga     360
aaaaaggaat gaaatgtatc tttctgagag attatcataa gcaatttgct tttgaaaggc     420
atatgagaat ttggatcacc aaatattctt tcaaagactt cttctgcttc tttaaagttg     480
ccattttcca tacaaacagc tatagcctga attttaatta aattctgtat ttcttcatga     540
agtttgtcat gttccttttc aattgaaccc caaatcatca gggctgattc caanggtgta     600
attcgttcat cattttcaaa ctgtgcatca agggtttttc ctgctgcaat tcttgtcaaa     660
aactgacata tgtntatcgt tctcaactgg cnagcctgtt aaactggaaa atccatgaat     720
aataacctct ggcgctgttg cgggtcctgc ggaaattccn cggaaccggc cgtcncggaa     780
aactcngcaa aagaaaaaaa gc                                              802


<210> 600
<211> 523
<212> DNA
<213> Homo Sapiens

<400> 600
gaaaagcaac ttttattgaa naatttggag ggaaggttcc atattatatt ataatagtaa      60
aaatactaaa gttgaatgtt gtaaaaaaac nccgtggtgc agcggcagcg gcagcgtctg     120
gccaggaggc gtggaggggc ccagggatgg ccaccccac agggagtcag ggagggcctg     180
gggcgacagc ggaaaggtta agcgtcnaaa aggtcaagtg ctaccgtgga naaatcatct     240
gaggggagg ctcccggtgg dacagtcacc aanaactgtn acacacaagg ggaaggggga     300
gggctttcct gtcacaaana ttaaaaaccc ccnaaatgca tttgaacaac atnatacacn     360
ataacaaatt taaaccttgc tcctctgtcc cactgggtna accctggccc atccccatc     420
cctggtccca tcccaggggc ccagcctccg atnactcctc anaaacacng ccttnntgct     480
gggggctgc tgtntncctg ccacccccnn gaaaaggtgc tgg                       523


<210> 601
<211> 530
<212> DNA
<213> Homo Sapiens
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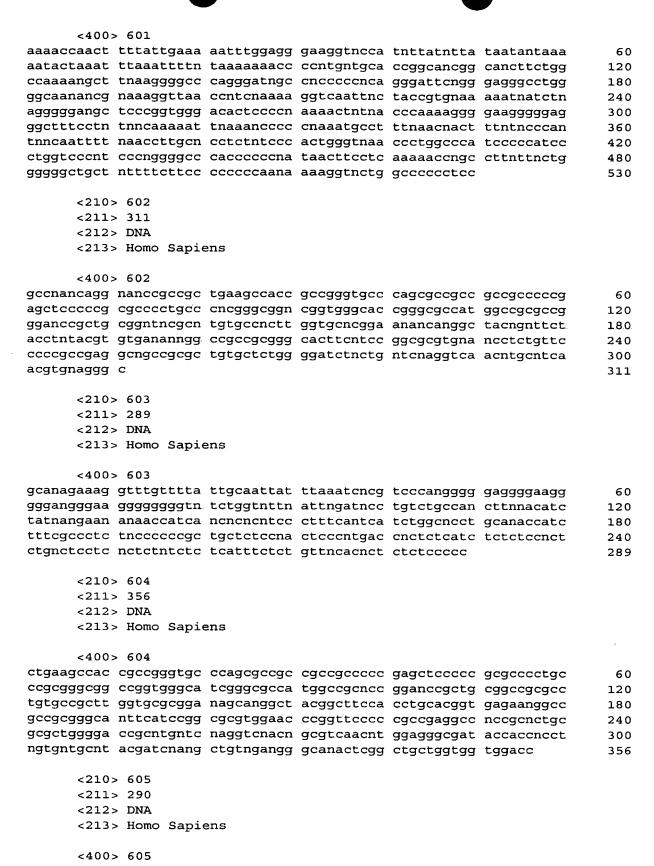
<400> 601
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aaaaccaact tttattgaaa aatttggagg gaaggtncca tnttatntta taatantaaa    60
aatactaaat ttaaatttn taaaaaaacc ccntgntgca ccggcancgg canctcctgg   120
ccaaaangct tnaaggggcc cagggatngc cncccccnca gggattcngg gagggcctgg   180
ggcaanancg naaaggttaa ccntcnaaaa ggtcaattnc taccgtgnaa aaatnatctn   240
aggggggangc tcccggtggg acactccccn aaaactntna cccaaaaggg gaaggggggag 300
ggctttcctn tnncaaaaat tnaaancccc cnaaatgcct ttnaacnact ttntncccan   360
tnncaatttt naaccttgcn cctctntccc actgggtnaa ccctggccca tccccccatcc  420
ctggtcccnt cccnggggcc cacccccna taacttcctc aaaaaccngc cttnttnctg    480
gggggctgct nttttcttcc cccccaana aaaggtnctg gccccccctcc              530
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<210> 602
<211> 311
<212> DNA
<213> Homo Sapiens

<400> 602
```
gccnancagg nanccgccgc tgaagccacc gccgggtgcc cagcgccgcc gccgcccccg    60
agctcccccg cgcccctgcc cncgggcggn cggtgggcac cgggcgccat ggccgcgccg   120
gganccgctg cggntncgcn tgtgccnctt ggtgcncgga anancanggc tacngnttct   180
acctntacgt gtgananngg ccgccgcggg cacttcntcc ggcgcgtgna ncctctgttc    240
ccccgccgag gcngccgcgc tgtgctctgg ggatctnctg ntcnaggtca acntgcntca    300
acgtgnaggg c                                                       311
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<210> 603
<211> 289
<212> DNA
<213> Homo Sapiens

<400> 603
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gcanagaaag gtttgttttta ttgcaattat ttaaatcncg tcccangggg gaggggaagg    60
gggangggaa ggggggggtn tctggtnttn attngatncc tgtctgccan cttnnacatc   120
tatnangaan anaaccatca ncncncntcc ctttcantca tctggcncct gcanaccatc    180
tttcgccctc tnccccccgc tgctctccna ctcccntgac cnctctcatc tctctccnct    240
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<210> 604
<211> 356
<212> DNA
<213> Homo Sapiens

<400> 604
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tgtgccgctt ggtgcgcgga nagcanggct acggcttcca cctgcacggt gagaanggcc   180
gccgcgggca nttcatccgg cgcgtggaac ccggttcccc cgccgaggcc nccgcnctgc    240
gcgctgggga ccgcntgntc naggtcnacn gcgtcaacnt ggagggcgat accaccncct   300
ngtgntgcnt acgatcnang ctgtngangg gcanactcgg ctgctggtgg tggacc        356
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<210> 605
<211> 290
<212> DNA
<213> Homo Sapiens

<400> 605
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gcaaagaaang gtttgtntta ttgcaattat ttanagcgcg tcccaagggg gaggggangg      60
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nnantcgact nccaccaact gtnnntcttc cttcctttcc cnangtccct anntaccncc      180
tnttgcccct ctnccccttn tttcccctcn cgctttccct nactctttat ctntcttntc      240
ctctctctct ctcacctctt tctcccCctc ccttcacnct cacnttgtct                 290
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        <210> 606
        <211> 714
        <212> DNA
        <213> Homo Sapiens

        <400> 606

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cgccagaaaa agttatttta attttctatt aaacattctt ctcaaagcat tattttatcc      60
tatatctcac tgaattttaa gaaataacat tagtattaga aaaactagga aaaagataa       120
atgcagataa ttaaacttac atgaaaaagg aaaattataa caaaggactg agaacgttat      180
aaattgaaat gagattataa tttgaaaact gcatctgaaa gcaaacttta ttgttcaatt      240
atncttaatg atggtgtttt atgactaata cactgatttt tcaagaagga aacccatgtt      300
aaaaatattt ttattttaaa aataagcctg tgttcaagct ctgatcatat ttctttatt      360
ttgatttggg aanaaaatac tgtttctgat agcatgaaat gcaaaatttt tagattttta     420
atctcactaa ttttaanaac tattgagaaa ttgattaatg acatgaagtg cacaacacta      480
attactggcc agctgttggc attgtgtttc ttacttagtt ctcccaaggg aaaactctta      540
aattgaatct tcagcagaat aatccttaaa tatactttgt aagcaaaaca aaagctttt      600
tgtttacata gttctttggg attttactgt tcctaatttt attctgaaac tcaattttac      660
cccagaccat aattaccata ttaactttgt tntgcacagt tgtttgccaa ttca           714
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        <210> 607
        <211> 687
        <212> DNA
        <213> Homo Sapiens

        <400> 607

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attttaattt tctattaaac attcttctca aagcattatt ttatcctata tctcactgaa      60
ttttaanaaa taacattagt attagaaaaa ctaggaaaaa agatnaatgc agataattaa      120
acttacatga aaaggaaaa ttataacaaa ggactgagaa cgttataaat tgaaatgaga      180
ttataatttg aaaactgcat ctgaaagcaa actttattgt tcaattattc ttaatgatgg      240
tgttttatga ctaatacact gattttttcaa taaggaaacc catgttaaaa atattttttat      300
tttaaaaata agcctgtgtt caagctctga tcatatttct tttattttga tttgggaaga      360
aaatactgtt tctgatagca tgaaatgcaa aattttttaga ttttttaatct cnctaatttt      420
aagaactatt gagaaattga ttaatgacat gaagtgcaca acactaatta ctggccagct      480
gttggcattg tgtttcttac ttagttctcc caaggaaaac tcttaaactg aatcttcagc      540
ngaataacct aaatatact ttgttagcca aacaaaactt ttttgtttac atagttcttt      600
ggattttact gttcctaatt ttattctgaa actccatttt tccccagacc ataattaccc      660
tatttaactt tgttatgcac agttgtt                                           687
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        <210> 608
        <211> 994
        <212> DNA
        <213> Homo Sapiens

        <400> 608

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ctcacccagt tgctcctcag atgtttgggt atgctggaaa agaacatatg gaaaaatatg      60
gaacaaaaat tgaacacttt gcaaaaattg gatggaaaaa tcataaacat tcagttaata      120
acccgtattc ccagttccaa gatgaataca gtttagatga agtgatggca tctaaagaag      180
ttttttgattt tttgactatc ttacaatgtt gtcccacttc agatggtgct gcagcagcaa      240
ttttggccag tgaagcattt gtacagaagt atggcctgca atccaaagct gtggaaattt      300
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tggcacaaga aatgatgact gatttgccaa gctcgtttga agaaaaaagc attattaaaa    360
tggttggctt tgatatgagt aaagaagctg caagaaaatg ctatgagaaa tctggcctga    420
caccaaatga tattgacgta atagaacttc acgattgctt ttctaccaac gaactcctta    480
cttatgaagc actgggactc tgtccagaag gacaaggtgc aacgctggtt gatagaggag    540
ataatacata tggaggaaag tgggtcataa atcctagtgg tggactgatt tcaaagggac    600
acccactagg cgctacaggt cttgctcagt gtgcagaact ctgctggcag ctgagagggg    660
aagccggaaa agaggcaaag ttcctggtgc aaaggtggct ctgcngcata atttangcat    720
tggaggaact gtggttgtaa cactctacaa gatggggttt ccccggaagc cgccagttcc    780
ttttagaact catcaaaatt gaagccngtt ccaaccaagc tctgcaagtn atnggtttaa    840
ngnaaaatct ngtttaaag gnggattgag aaggaaacnt naaagaggga anggggaaca    900
atttgtgaaa gaaaaatncg gnggggaattt ttgcccttca aggggaaana atggccctgg    960
ggggtaaaag anggccaccc tggggtggtg ggat    994
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         <210> 609
         <211> 843
         <212> DNA
         <213> Homo Sapiens

         <400> 609

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ggccaaaaaa anttatttna atttcctatt aancntcctc cncaaancat tatttnaccc    60
tatnncncnc ngantttnan aaantacctt tnntnttaaa aaacctngga aaaaaaataa    120
tngcaaatan ttaaccttnc ttgaaaangg aaatttntac caanggacng aaancnttnt    180
aattngaant naaattatan ttngaaancg gcnncngaaa ccaancttna tggtccaatt    240
atcctnaang agggnntttn annactaatn cccngatttt ccaatangga ancccnnntt    300
aaaantnttt tnattttaaa aataaccong tntccaaccc cngatcanat tcctttnatt    360
tggattgggg aaaaaaatnc ngttccnnat accnngaann gcaaantttt taaatttta    420
acccccctan ttttaaaanc tatngaaaan tngattanng acttgaattg ccaaccctan    480
ttncnggcca ccngtgggcn tngtnttcct tacttantcc ccccaaggaa annccttaan    540
cngaanctcc nccaaaataa cccttaanta tccttggtaa ccaaancaaa accttttng    600
tttacntant ccttgggatt taacgggtcc ccaatttnat ccngaaccca nttttcccc    660
naaccatant taccatttta ccttggtaag gcncagtngt ttgcantncc gcaaancagt    720
antnttcccc nggcnctttc ccccgancct tgggaaaaac gggatnggtc cccccttaa    780
aaaacaacct tcccccncct ttggcccagg nnttnttccc gtctaaatcc gaacaataaa    840
aag    843
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         <210> 610
         <211> 707
         <212> DNA
         <213> Homo Sapiens

         <400> 610

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ctagtctcga gttttttttt ttttttttaa cctttcctta tgagcatgcc tgtgttgggt    60
tgacagtgag ggtaataatg acttgttggt tgattgtana tattgggctg ttaattgtca    120
gttcagtgtt ttaatctgac gcaggcttat gcggaggana atgttttcat gttacttata    180
ctaacattag ttcttctata gggtgataga ttggtccaat tgggtgtgag gagttcagtt    240
atatgtttgg gatttttttag gtantgggtg ttgagcttga acgctttctt aattggtggc    300
tgcttttagg cctactatgg gtgttaaatt ttttactctc tctacaaggt tttttcctag    360
tgtccaaana gctgttcctc tttggactaa cagttaaatt tacaagggga tttagagggt    420
tctgtgggca aatttaaagt tgaactaaga ttctatcttg gacaaccagc tatcaccagg    480
ctcggtaggt ttgtcgcctc tacctataaa tcttcccact attttgctac atagacgggg    540
tgtgctcttt tanctgttct tangtanctc gtctggtttc gggggtctta gctttggctc    600
tccttgcaaa gttatttcta agttnaattc attatgcnca angtataggg gttagtcctt    660
gctcatatta tgcttggtta taattttcca ncttttccccct tgcggta    707
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         <210> 611

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        <211> 663
        <212> DNA
        <213> Homo Sapiens

        <400> 611
ccatttata atgcgcttta tttgattaaa gaatttgcct tctttgtata cactggaatg       60
ttatattccc tatgtatttt acagggttac aaaatgtctc tcattttaaa tattaccca       120
aaagtaatct canaaaaaaa aggttttttg aaattaaact tgacttttaa aaaatcatac      180
ggacaaacaa ctttcaaaca aaactggatt agtaggattt cttgcctgct taactaacat      240
gacanacttc ttgtcccagg cccttctcan aaaaacctca tgtggaaacc aagctanaga      300
taanaattct tccctgatgc agttagggga aagggaaagg ctagaaactt ctttggcaag      360
caattccaca cacagccatt tatgtgtgag tgctctgctt caagcacagt acgctctttg      420
cagggacggc cagatgttca gagtgggagt ggtacttttc aaccagctaa aagtgcagaa      480
gtcatctant cgtctgcctc ttcccactgc cagtgcctgc agccttgcag caactttaa       540
ccacccccta tgggactgga atnttgagtt aaaaagccaa ngctgaactg gctgacgctg      600
tantctccan tgaaaaggaa atgggatgaa atggaaaccg aaaaaccccc ngtnacntga      660
tga                                                                    663

        <210> 612
        <211> 621
        <212> DNA
        <213> Homo Sapiens

        <400> 612
cattttataa tgcgctttat ttgattaaag aatttgcctt ctttgtatac actggaatgt      60
tatattccct atgtatttta cagggttaca aaatgtctct cattttaaat attaccccaa      120
aagtaatctc anaaaaaaaa ggttttttga aattaaactt gacttttaaa aaatcatacg      180
gacaaacaac tttcaaacaa aactggatta gtaggatttc ttgcctgctt aactaacatg      240
acaaacttct tgtcccaggc ccttctcana aaaacctcat gtggaaacca agctananat      300
aanaattctt ccctgatgca gttaggggaa agggaaaggc tagaaacttc tttggcaagc      360
aattccacnc acagccattt atgtgtgagt gctctgcttc aagcacanta cgctctttgc      420
agggacggcc anatgttcnn antgggagtg gtacttttca accagctaaa antgcanaag      480
tcatctantc gtctgcctct cccactgcc agttgcctgc agccttgcag catcttttaa      540
ccacccctat nggactggaa tattgaatta taaacccngg ntgaactggc tgangctgtt      600
tctcccttga aaggaaatg g                                                 621

        <210> 613
        <211> 637
        <212> DNA
        <213> Homo Sapiens

        <400> 613
catttnataa tgcgctttat ntgattaaan aatnngcctt ctttgtatac gcnggattgt      60
tatctcccct ntntatttnn ggggggttaca anttntcnct catttnaant atnnccccaa      120
tantntnctn aaaaaaaaga ggtttganga aattaaactt gacttttaaa anatcatgng      180
gacaaacnac tttcaaacaa agctggatta gnaggatttc tngnctgctt aactaacatn      240
aaanacttct tgtcccaggc cctnctnaaa aaaacctctt gtggaaaccn agcnaaaaat      300
aananttctc ccctgatgca ntggggggag anggagaggc taaaaacttc tntggcaanc      360
anttccacnc acngccattt ttntntnagt gcnctgctnc nancnnagta cgctctttgg      420
gnggacggcn anntnttnat agngggagtg gtnctttcaa ccagctaata ntgaagaaat      480
catctagtcg nctgcctctn cccactgcca gtgcctgcnt ccttgcaacn tcttttaacc      540
cccctangg acnggattat nnagttaana ccgaggntga gctggntgac gctntctcct       600
ccatttgaaa angaaatgga taagatggaa ccgaaaa                               637

        <210> 614
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<211> 673
<212> DNA
<213> Homo Sapiens

<400> 614
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aaagagatat gaagatcttc ctataaatag caatccagtg tcttctcaga aacaaccagc     120
cttgaaggct acaagtggca aggaagattc tattcaaat atagccacag aaataaagga      180
tggacaaaaa tctgggacag tgtcttctca gaaacaaccg gccttgaagg atacaagtga     240
caaggatgat tctgtttcga acacagccac agaaataaaa gatgaacaaa aatctgggac     300
agtgcttcct gctgttgaac agtgtttaaa caggagtctc tacagacctg atgctgttgc     360
acagcctgtg acagagaatg agtttttcttt ggaatctgag attatttcaa aactatacat    420
cccaaagaga aagattattt ctccacgatc tataaaagat gtgcttcctc ctgttgaaga     480
ggctgttgac aggtgtctct acctactgga ccgttttgca cagcctgtga caaagggata     540
agtttgcttt ggaatctgag aatatttcag aaccatactt tacgaacaga aggactattc     600
tcaacaatct gcagaaaatt tagatgctgc atgtggcatt gacaaaacag aaaatggana     660
catgtttgaa gac                                                        673


<210> 615
<211> 714
<212> DNA
<213> Homo Sapiens

<400> 615
cctctggcta tattcaaaac agaatctttc tcatcacttg aagccttcaa gcctggtggt      60
ttctcanaan acactgtcct agatttttct ccatccttgt tttctctggc tatacccaaa     120
acagaatctt cctcgtcact tgtacccttc aaggttggtg gtttctgana anacactttc     180
ctanatattt ctccatcctt ttttcctctg gttatattcg aaaaanaatc cttctcatca     240
cttgtagcct tcgaggctgg ttttttccga naagacactg tcctanattt ttctccatcc     300
ttgtttttctc tggctatact caaaacagaa ccttcctcgt cacttgtanc cgtcaaggct     360
ggtggtttct ganaanacac tgtcccanat ttttctccat cctttatttc tgtggctatg     420
ttcgaaacag aatctttctc atcagttgta gccttcaagg ntggttgttt ctgaaaanan     480
ctgtcccana tttttctcca tcctttattt ctgtggctat nttcgaaaca gaatcttcct     540
cgtcagttgt accttcnagg ntggttgttt ctgaaaaaan actgtcccac actgtatcca     600
tcctttattt tntgttanct atatcnaagc aaaatctgtt ttgtcccttg ttaccntttg     660
aaggtnggtn gtttctgaaa ataanctgt tccanatttt cccaccaccc attt            714


<210> 616
<211> 688
<212> DNA
<213> Homo Sapiens

<400> 616
cctctggcta tattcaaaac agaatctttc tcgtcacttg tagccttcaa gcctgatggt      60
ttctcanaan acactgttct anatttttct ccatcctttt tttctctggc tatattcaaa     120
acanaatctt cctcgtcacc tgtagccttc aaggctggtg gtttctgaaa anacactgtc     180
ctanatgttt ctccatcctt tcttctctg gttatatttg aaaaanaatc tttctcatca     240
cttgtagcct tcaaggctgc ttttttccga naanacactt caagcctggt ggttgctctg     300
aaaacactgt ctaaatttt tctccatcct tttttctct ggctatattc aaaacanaat      360
cttcctcgtc acttgtagcc ttcaaggctg tggtttctg aaaananact gtcctanatg      420
tttctccatc ctttctttct ctggttatat ttgaaaaana atctttctca tcacttgtan     480
ccttcaaggn tgcttttttc cganaanaaa cttcaagcct ggtggttgct cngaaaaaac     540
tgtcctaaaa ttttttctcca tccttttctt ctctnggcta tactcnaaac aaaatcntcc     600
tcgtcccttg ttncccttca anggtgggtg gtttctcgaa aaaaanactg tcctanaatt     660
ttcctccntc ccttttttttc tctgggtt                                       688
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      <210> 617
      <211> 721
      <212> DNA
      <213> Homo Sapiens

      <400> 617
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tcatgaaagt cgccagtggc agcaccgcca ccgccgccgc gggccccagc tgcgcgctga   120
aggccggcaa gacagcgagc ggtgcgggcg aggtggtgcg ctgtctgtct gagcagagcg   180
tggccatctc gcgctgcgcc gggggcgccg gggcgcgcct gcctgccctg ctggacgagc   240
agcaggtaaa cgtgctgctc tacnacatga acggctgtta ctcacgcctc aaggagctgg   300
tgcccaccct gccccagaac cgcaaggtga gcaaggtgga gattctccag cacgtcatcg   360
actacatcag ggaccttcag ttggagctga actcggaatc cgaagttgga accccggggg   420
gccgagggct gccggtccgg gctccgctca gcaccctcaa cggcgagatc agcgccctga   480
cggccgangt gagatccaga tccgaccact anatcatcct tataccgacg gggaaacnga   540
agccatanaa ggcgtgggcg cttgcaccac ttccgtccca tccttgcggg tacctggtct   600
atgcnggggt ncctaaggac cttggaaaaa acgctccccc gtcgttgctt cctggggaan   660
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c                                                                  721

      <210> 618
      <211> 461
      <212> DNA
      <213> Homo Sapiens

      <400> 618
ccaccancta anttattnnt ttaataacaa aaaaacancc ccacaaaact atngtaaaac    60
aatatttcca ntcggtnatc ntngtattnt acaatacaaa ncanttcccn caaaattctn   120
aaaancacca ancttnacca ttttttaaan tttctgcttt ncaaaaanta aaaacncnca   180
attgnantcc caccccctaa attctctggt nactattagg tntncaaaaa gnaccncccn   240
ctccncncca ttgcctcanc cncanccca ggctgnatnc atttaagggc ncattggccg   300
ccaatcggnc tnntccnccc ncaaatccgg caaggcnctt nggggnaaac ccacaaanca   360
cttattcccc ctngccccct gaatggctgg ggtccgccgg tccctggggn aggcnctcca   420
ccaacncaaa atgcaatcnt ccncagnaac ccntgccgcc t                      461

      <210> 619
      <211> 751
      <212> DNA
      <213> Homo Sapiens

      <400> 619
cccgagggac cacagctggc agctccgggg atgccctcgg caaagcactg gcctcgatct    60
actccccgga tcactcaagc aataacttct cgtccagccc ttctacccc gtgggctccc    120
cccagggcct ggcaggaacg tcacagtggc ctcgagcagg agccccggt gccttatcgc    180
ccatctacga cgggggtctc cacggcctgc agagtaagat agaagaccac ctggacgang   240
ccatccacgt gctccgcagc cacnccgtgg gcacagccgg cgacatgcac acgctgctgc   300
ctggccacgg ggcgctggcc tcaggtttca ccggccccat gtcactgggc gggcggcacg   360
caggcctggt tggaggcagc caccccgagg acggcctcgc aggcagcacc agcctcatgc   420
acaaccacgc ggccctcccc agccagccag gcaccctccc tgacctgtct cggcctcccg   480
actcctacag tgggctaggg cgancaggtg ccacngcggc cgccancgag atcaagcggg   540
aagagaagga ngacgangag aacacgtcag cggctganca ctcggaagaa ganaanaagg   600
aactgaaggc ccccgggccc ggaccattac ggaacaagtg ctgtcccttg naggagaaaa   660
actgaaggac cgggaaaagg cncatggcaa ttacnccccg ggaaccggtg cccttccggg   720
atattaacna aggcttccgg gaactggggg c                                  751
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<210> 620
<211> 556
<212> DNA
<213> Homo Sapiens

<400> 620
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caaaaatagc ganagacacg ggactttat acaaaaaaat ttgttgctta caaaacatat      120
gcaaaaaaag cttaaaaaaa ccaaaaacca aaggcagcat ccttgctaat tttcatctac      180
attaanaaaa aaaaaatctt gtaactaatg tttttatttn ccttaaaaaa aatatttcgc      240
ttaggcacaa tttgctggtg gctttaaaaa aataagccag gtttccacag catccccctt      300
gagtgatatn tttccatttc tccgcttttt atagttaagg cattttttnc tnctctgaca      360
aagtgtatgt tttgttgctt gctttcaggt tttgtttact ggaaaaaaaa aaaaatgccc      420
tgtcanccca ngcaanaggg ccaanatgca attcagggat ccntgggaca ggtccaaaat      480
gacccggggg ctgaaattcc gggacggggg aacaaggcnn tttaatngta ggccagggcc      540
canggaaccc tgaacc                                                      556


<210> 621
<211> 708
<212> DNA
<213> Homo Sapiens

<400> 621
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acaatttaan tgcaatataa aaccctacta aatacaaata caattncaca aacncntatg      120
caacaaaaac ttgtttaaat ngttccttna atttnnacta cttaaaanca taggtntaaa      180
ggaaaaacnt ncaaactggt ccacttgggc ttnttaccag gcaaagnaac cctgcttncc      240
aaaaactnat atattccaaa ttcncggcat ntggnaatnt tnccatggac nctgnatctt      300
aacaaatgct atantnttta caaaactacn cccncaaaaa aaccccaagg aacctgcagg      360
ctaancccta tncttttaaa gggctnaagg aaccaaacct attttaancc tnttngtttg      420
cnccatgcaa aactttatgn aaaaccccca aactaggcta tttancnnct nccatnaatg      480
gnccccaaat catntnatnc tacggcataa acaacanctg ccctatttac ncggaacctg      540
caaanctcac aagnaatgtg aattngcnct ngggantcaa tgttnccggg tnaattatct      600
tggatnanaa ccnttttcta catnactatt gaaaaaacct gtggtttctt gctttttaac      660
aaatnnggtg ttcctttgcc ccccccctt attttcaag ggctgggt                    708


<210> 622
<211> 675
<212> DNA
<213> Homo Sapiens

<400> 622
atcacagtcc agagagtcct agaggaggac gagagcataa gancttgcct tagtgaagat      60
gcaaaagaga ttcagaacan aatagaggta gaagcagatg ggcnaacaga agagattttg      120
gattctcaaa acttaaattc aagaaggagc cctgtcccag ctcaaatagc tataactgta      180
ccaaagacnt ggaagaaacc aaaagatcgg acccgancca ctgaagagat gttagaggca      240
gaattggagc ttanagctga gaggagctt tccattgaca aagtacttga atctgancaa      300
gatntaatga gccagggtt tcatcctgaa agagacccct ctgacctana aaaagtgaaa      360
gctgtggaag aaantggaga anaagctgag ccagtncgta ntggtgctga gagtgtctct      420
gagggtgaag gantagatgc tacttcaggc tccncagata gttctggtga tggggttacn      480
tntccatttn aaccngaatc ctggaagcct actgatnctg aaggtntgan gcnntntgac      540
ngggagttct gctggacttc cagttcatgc ctgcctggta tnctttnccc gagggcctgc      600
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tctgggatcc ttcga                                                       675
```

● ●

<210> 623
<211> 713
<212> DNA
<213> Homo Sapiens

<400> 623

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ttttctataa ataatacatg tattttggtt ttagtgctcc cgccctaagg tttgaagttt    120
acttttatcc agtacctttt tcctccatga tcaccttttt ttctctttcc cctctcccac    180
tcgtgcacac gtggggtttt ctgcgagaat tggccttgct gcactgtgat tggcgaanac    240
gtgaaacttt ttaaaaaaat acttaaaattg tttcttttgt ttcattttgt gtatttgaag   300
ttttagttat cctcagactc ctcttctgct tcccgcagcc acgtgaagaa tgccgtgaca    360
gatttcagag ccacgccctt cccattctgc tctgcagggt ccttgctgct ctcccatttg    420
tagaaggcat cctcggagat cacctcctcg tcatatagac aatcaaaaaa catccgcagc    480
aaattggcag gttgatcaag ttttactatc gatgcttgta gtgcataaag tgctgcagtt    540
ccttctctgt atctgantct aggtacttga gtaagatcgg cactctctgc ttgataacag    600
cagtgtccac tctgaaggta naagaatcng gttattatag cttgctttaa caaacagcng   660
tcnttaaagc tctaaggaat gttangtgaa atncactgga tttcgtctaa att           713
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<210> 624
<211> 554
<212> DNA
<213> Homo Sapiens

<400> 624

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cattcnagaa agatnttaca cacggagttt nctcantatt gggctcaacg ggaagctgac    60
tttacggana ctctgcttca agtaacgana gatattanaa ganaatgctg gancgtcgtt    120
tggctatctt cnaggatttg gttggtaaat gtgaccctcg agaanaagca gcgaaagaca    180
tttntgccac caaagttgaa actgaagaag ctactgcttg tttagaacta actttnatcc    240
aattaaagct gaattagcta aaaccaatgg agaattaatc tcnaccncnc acnanttcnc    300
ccagagana natgaatccg attcattgat tcaagagctt gagacatctg ntaaganaat     360
aattncacan aatctggaga attnnagaat tgatnaatat nattgatcnn tcgaagatac    420
tatcancgaa tttcagaacc tnangtctca tatggaaaac tcntttaaat gcnatgacaa    480
ggctgataca tcttctttaa taataaacaa taaattgatt tgttatgaaa cagttgaagt    540
acctaaggga cagc                                                      554
```

<210> 625
<211> 551
<212> DNA
<213> Homo Sapiens

<400> 625

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gactgcatgt tctcatttat ttatgggatc taaaaataaa atcaattgac ctcatgggca    60
tacanantaa aaaaatggtt accagtggct ggtaagggta ctgacggttg caggggagg     120
tggggatggt taatgggtac aaaaacaaat aagatnaaaa gaatgattta atatctgata    180
gcacaatana ntgactataa tcaataataa cttacttgta tattttaaa tgatctaaaa     240
aatgtaattg gattatctgt aattcaaagg aaaaatgctt gaggggatgg atacctcatt    300
ctccatgata cacgtntttc acattgatgc ctgtgtcaaa acatctcaca taccccgtaa    360
atatatacat gtactatgta ccacaaaatg tttacaaaat aagtganaca ttctaattaa    420
agactgaaat ctttttctaa ataatgtata tacatgtttt gtgatctgta cacacttatt    480
ctccaaatcc taactntant cccaacanat atnttaaatc cttgtttanc ngaataagtt    540
aaaaaaatcc t                                                         551
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<210> 626
<211> 680

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<212> DNA
<213> Homo Sapiens

<400> 626
atttggtaac aggattaaaa agaaattttt aattccttgt ctctcttctg atggctgaac    60
agaactgcgg tgtcaaatgg aaagcagcac acaagaattc ccttgcagac cttgatcttt   120
cgcanaaatg caaagacgcc tgagttatac aacttgcaat tattattttc tanacagaag   180
tgccaactgt tgtgctttcc agtgtatcag tggttgctac attctccttc ttgtcttcgg   240
gtttcatggc aggaaacaga agtacttcct tgatgttgtt ggagtccgtg agaaacatgg   300
cgactcgatc aatgcccatg ccccagccag ctgtggggg cagcccatat tccagggcag    360
tacagaagtt ttcatctatg aacatggcct catcatcacc tgcagccttg gccttggcct    420
gttcttcaaa aanctgccgc tgccgcatgg gatcattcag ctcagtatac gcattgcata    480
tctctttctt catgacaaac agctcaaanc gctcagtcag acctctttaa ancggtgcca    540
tttaaccnaa gggccattat ctgtgggtga tcacagatga atgtnggatt gatgcaagtc    600
acttccanga actccccaac aancttgtca aggaacctgg ctgtggtcca angtggaagg    660
catccacanc ttttgccccc                                                680


<210> 627
<211> 753
<212> DNA
<213> Homo Sapiens

<400> 627
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aaggaaggtc tgaactaatt gtcgtggaan aaggaagtga accctcagaa cttataaagg   120
tcttagggga aaagccagag cttccagatg gaggtgatga tgatgacatt atancagaca   180
taagtaacag gaaaatggct aaactataca tggtttcaga tgcaagtggc tccatgagag   240
tgactgtggt ggcanaagaa aacccccttct cantggcaat gctgctgtct gaagaatgct   300
ttattttgga ccacggggct gccaaacaaa ttttcgtatg gaaaggtaaa gatgctaatc   360
cccaagagag gaaggctgca atgaagacag ctgaagaatt tctacagcaa atgaattatt   420
ccaagaatac ccaaattcaa gttcttccag aaggaggtga aacaccaatc ttcaaacagt   480
tttttaagga ctggagagat naacgatcag agtgatggct tcgggaaagt ttatgtcaca   540
gagaaagtgg ctcaantnna acnaattccc tttgatgcct cnnaattacn cagttctccg    600
cagatggcag cccagcacaa tatggtggat gatggttctg gccaagtgga aatttggcgt   660
gtncaaaaca atggtaggat ccaagttgac cnnaactcct atggtgactc ccatggtggt   720
gactgctact tcatactcta cacctatccc tga                                 753


<210> 628
<211> 675
<212> DNA
<213> Homo Sapiens
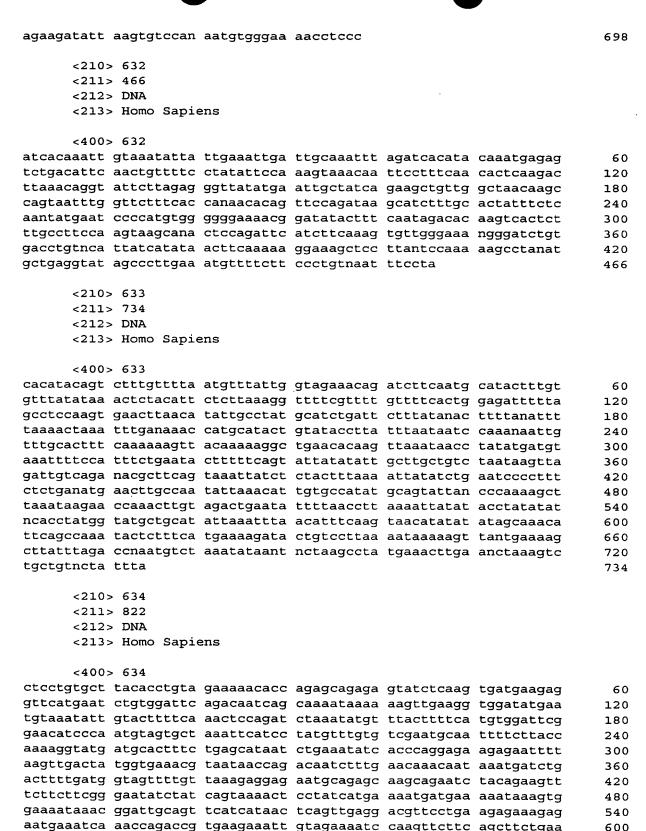
<400> 628
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gttaaancca ccttaacata aaccttatng caattntaca cntcttttga acncaatcta   180
taaaaaaaaa aataactncc anggcattac aactttnct ctggcatntt aaaaaacaac    240
tctnactaat ggctaatgca ttataaaatt ncctatctna caaatcttnc taaattatgc   300
atagtatttt acttttnaaa ggtcntaaaa aaaatataaa tcanttncca taaaanctaa   360
tatnggccca taacaaaant tccctncagg ttattttaat ntnttaacnt aaaaaaacnc   420
cagntgaaaa aaaattncaa nccaaaacta accnttaaaa aataggcntt nggttnaggt   480
taattttttt ttttttttt ttgnaaanaa antcnctntt gcccagnctg gattgtggtg   540
gcnccaatcc tggctcactg caacctcagc ctcctgggtt caagcaattt ncctgtctca   600
gccttccaan ttccngggaa tacaggggtn cnccaccacn cccagctaaa ttttttttgt   660
tttttttant aaaag                                                     675
```

-330-

```
<210> 629
<211> 677
<212> DNA
<213> Homo Sapiens

<400> 629
aagatcagcg atatcacgcg tcccccggag catcgcgtgc aggagccatg gcgcgggagc      60
tataccacga agagttcgcc cgggcgggca agcaggcggg gctgcaggtc tggaggattg     120
agaagctgga gctggtgccc gtgccccaga gcgctcacgg cgacttctac gtcggggatg     180
cctacctggt gctgcacacg gccaagacga gccgaggctt cacctaccac ctgcacttct     240
ggctcggaaa ggagtgttcc caggatgaaa gcacagctgc tgccatcttc actgttcaga     300
tggatgacta tttgggtggc aagccagtgc agaatagaga acttcaagga tatgagtcta    .360
atgactttgt tagctatttc aaaggcggtc tgaaatacaa ggctggaggc gtggcatctg     420
gattaaatca tgttcttacg aacgacctga cagccaagan gctcctacat gtgaagggtc     480
gtanagtggt gagagccaca gaattcccct tagctgggac agtttcaaca agggtgactg     540
cttcatcatt gaccttggca ccgaaattta tcanttggtg tggttcctcn tgcaacaaat     600
atgaacgtct gaaggcaaac cangtancta ctggcattcg gtncaatgaa aggaaaggaa     660
ggtctgaact aattgtc                                                   677
```

```
<210> 630
<211> 665
<212> DNA
<213> Homo Sapiens

<400> 630
gagacagagt ctctgttgcc caggctggag tgtggtggcg caatcctggc tcactgcaac      60
ctcagcctcc tgggttcaag caattttcct. gtctcagcct tccaagtagc agggactaca     120
ggcgtgcacc accacgcgca gctaattttt ttgtattttt agtaaaggcg aggtttcgcc     180
atgttggcca ggctggtctc gaaatcctga ccccagtgat ctgcctacct catcctctca     240
aagtgctggg attacaggtg tgagccaccg cgcccagcct taattttcaa aagacaaata     300
agcaaaaagc tttttcccgtt cctctcccaa aacagcaatg agataactgc cttgtaatgt     360
ttgtttgctt tttacaaata ccaatttacc acttgctgga atcccagccc aggaaccagc     420
ctgtgaatgt gggtggctca tggccctgtt ttatgatgac aattggtgtc ctcttgtctc     480
ttccagaagg gtctgtctca aggtacattt tggcanactt caaagattct tttttctcaa     540
cttcattagc atctttgcca atccaaataa atatctgttc ccaagcatct agtaacatga     600
catcatcttc agctaaatca tcctgggtga actctccctg gaatctcttc aataacaaat     660
ctccc                                                                665
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```
<210> 631
<211> 698
<212> DNA
<213> Homo Sapiens

<400> 631
ctgaggagct ggtggtcttt gaggatttga atgtatttca ctgccaggaa gaatgtgtga      60
gcttggatcc tactcaacaa ctcacgtcag agaaggaaga tgacagcagt gtcggggaaa     120
tgatgttact ggtcaatggc agtaatcctg aaggtgaaga tcctgagagg gaacctgtan     180
aaaatgaaga ttatagagaa aagtcttcag atgatgatga aatggattct ccttggtct      240
ctcagcagcc tcccgataac caggaaaagg aacgactaaa tacatccatt ccacaaaaaa     300
ggaaaatgag aaatctgtta gttaccattg agaatgatac tcctctagag gaactctcaa     360
aatatgtaga catcantatt attgcccttia ctcgaaatcg gaggacaagg agatggtaca     420
cttgtccact gtgtgggaaa cagtttaatg aaagttctta cctcatttcc caccagagga     480
cccacactgg agaaaaaccc tatgactgtn ntcactgtgg gaaagcttc aatcatnaaa     540
caaacctcaa taaacatgag cgaattcnta caggagagaa accttattcc tgttctcagt     600
gtggaaaaaa cttccgtcng aattctcatc ggagtcgtcc tgaaggaatc catntaacgg     660
```

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agaagatatt aagtgtccan aatgtgggaa aacctccc                               698

        <210> 632
        <211> 466
        <212> DNA
        <213> Homo Sapiens

        <400> 632
atcacaaatt gtaaatatta ttgaaattga ttgcaaattt agatcacata caaatgagag        60
tctgacattc aactgttttc ctatattcca aagtaaacaa ttcctttcaa cactcaagac       120
ttaaacaggt attcttagag ggttatatga attgctatca gaagctgttg gctaacaagc       180
cagtaatttg gttctttcac canaacacag ttccagataa gcatctttgc actatttctc       240
aantatgaat ccccatgtgg ggggaaaacg gatatacttt caatagacac aagtcactct       300
ttgccttcca agtaagcana ctccagattc atcttcaaag tgttgggaaa ngggatctgt       360
gacctgtnca ttatcatata acttcaaaaa ggaaagctcc ttantccaaa aagcctanat       420
gctgaggtat agcccttgaa atgttttctt ccctgtnaat ttccta                      466

        <210> 633
        <211> 734
        <212> DNA
        <213> Homo Sapiens

        <400> 633
cacatacagt ctttgtttta atgtttattg gtagaaacag atcttcaatg catactttgt        60
gtttatataa actctacatt ctcttaaagg ttttcgtttt gttttcactg gagattttta       120
gcctccaagt gaacttaaca tattgcctat gcatctgatt ctttatanac ttttanattt       180
taaaactaaa tttganaaac catgcatact gtatacctta tttaataatc caaanaattg       240
tttgcacttt caaaaaagtt acaaaaaggc tgaacacaag ttaaataacc tatatgatgt       300
aaattttcca tttctgaata cttttttcagt attatatatt gcttgctgtc taataagtta     360
gattgtcaga nacgcttcag taaattatct ctactttaaa attatatctg aatccccttt       420
ctctganatg aacttgccaa tattaaacat tgtgccatat gcagtattan cccaaaagct       480
taaataagaa ccaaacttgt agactgaata ttttaacctt aaaattatat acctatatat       540
ncacctatgg tatgctgcat attaaattta acatttcaag taacatatat atagcaaaca       600
ttcagccaaa tactctttca tgaaaagata ctgtccttaa aataaaaagt tantgaaaag       660
cttatttaga ccnaatgtct aaatataant nctaagccta tgaaacttga anctaaagtc       720
tgctgtncta ttta                                                         734

        <210> 634
        <211> 822
        <212> DNA
        <213> Homo Sapiens

        <400> 634
ctcctgtgct tacacctgta gaaaaacacc agagcagaga gtatctcaag tgatgaagag        60
gttcatgaat ctgtggattc agacaatcag caaaataaaa aagttgaagg tggatatgaa       120
tgtaaatatt gtactttca aactccagat ctaaatatgt ttactttca tgtggattcg         180
gaacatccca atgtagtgct aaattcatcc tatgtttgtg tcgaatgcaa ttttcttacc       240
aaaaggtatg atgcactttc tgagcataat ctgaaatatc acccaggaga agagaatttt      300
aagttgacta tggtgaaacg taataaccag acaatctttg aacaaacaat aaatgatctg       360
acttttgatg gtagttttgt taaagaggag aatgcagagc aagcagaatc tacagaagtt      420
tcttcttcgg gaatatctat cagtaaaact cctatcatga aaatgatgaa aaataaagtg      480
gaaaataaac ggattgcagt tcatcataac tcagttgagg acgttcctga agagaaagag      540
aatgaaatca aaccagaccg tgaagaaatt gtagaaaatc caagttcttc agcttctgaa      600
tctaatacaa gtacttccat tgtaaacaga atacatccaa gtactgccag cacggtagtg      660
acccagcagc agttcctccc tggattgggc ccaggtgata actgctgtnt ctgctccgcc      720
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agaattctaa tttgattccc naagtcttaa tccctgttna tancatcccc cctacaatgc   780
tgcnttggat aacaacccc ttttttactta accccctacan cc   822

    <210> 635
    <211> 819
    <212> DNA
    <213> Homo Sapiens

    <400> 635
acccatttct aacaattttt actgtaaaat ttttggtcaa agttctaagc ttaatcacat -   60
ctcaaagaat agaggcaata tatagcccat cttactagac atacagtatt aaactggact   120
gaatatgagg acaagctcta gtggtcatta aaccccctca gaaagtctaa gattcagaat   180
gtctccatca tattagaaga aaaatgtact gtattaaaat ttaaattgca ttttttacaag   240
ttgtttttta attagtgttc tatttacatt gcanaacttc caccaactgc agtagtttaa   300
ctttggcaca acattaagtt ccatttcttt tgggtattgg atcctgcttt ttgagtgtgt   360
atgccccaaa acgttttcaa tgtcatcaaa gattgggcaa attcacagta aatcagacat   420
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gacagcttcc gtttcacatg tcgtggaagt cccaagtgtc actatcatct gtttcttctt   540
catcctcttc ctggtcatca ataacttcat cttcctcctc attttcctca aataattcta   600
tacctaattc tgatcttctc tgtctttctg caaaccactc tctgacctgc tcatancccа   660
tatgtgattt gttaacaaat tcatcaaggt cttgctcatt aaaaaacttg tgcttcaggt   720
tataatcctt aanttttgcc gttccagttt taaattttat gaatnaatgg tcccctggtc ·· 780
cccagttgtt aattcctttt ggctcctcca aggcgccca   819

    <210> 636
    <211> 704
    <212> DNA
    <213> Homo Sapiens

    <400> 636
aaaaagttat ttatttattc ttttttttt tttttttttt ttggtaaggt tgaatgcact   60
tttggttttt ggtcatgttc ggttggtcaa anataaaaac taantttgan anatgaatgc   120
aaaggaaaaa aatattttcc aaantccatg tgaaattgtc tcccatttt tggctttttgg   180
gggggttcag tttgggttgc ttgtctgttt ccgggttggg gggaaagttg gttgggtggg   240
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cacgctgttc ttgcantggt angtgatgtt ctgggagcct cggtggacat caggcgcagg   600
aaggtcacct ggatgccaca tcngcanggt cggaaccctg gccgccatac cccaactggg   660
aatccatcng tcatgctctc cccgaaacaa aacatcctct tgtt   704

    <210> 637
    <211> 693
    <212> DNA
    <213> Homo Sapiens

    <400> 637
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cttccattca gggacttgat acaaaaaatt tagtttgaac tgctattagc aggtggcagg   120
agccaccttc aaatgaatct tcaaattgga aaatactgct tcaccacctg ttggggataa   180
nttgcaaatg gaataattta gtatggtttg tagctatttt gatnaccacc tcgcctgnat   240
accttcccat aaccactctg ctggtcacca cctcttccac aagctcttcc tgcaaatcct   300
cctctaaatc cccactgttg ctgttgctga tattgtncct tcgacatggc tacttttatt   360

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tcacatttac taaaaccaac attgtggtat ttcttttcca ttatcttctt cactggttct    420
tcttccttaa aggtaataaa gcaaaaccca cgcctcttat tggtcttgtt gtccatgggg    480
agctctatgg attccacctc accaaaacca ccaaagtact cccttatttt ctcttcaggt    540
gtatctggan aaaggccacc ancnaaaatt ttttaaccgg ctcttttgtt tccatggctt    600
tgggcctttt angatcaatc accttcccca ttcaatttat gttctttttg gatccatgaa    660
cctttntcta cnccctcccg aattccttaa ata                                 693
```

<210> 638
<211> 619
<212> DNA
<213> Homo Sapiens

<400> 638

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aagaatcgga gagtgtanat aaggtcatgg atcaaaaaga acataaattg aatgggaagg    120
tgattgatcc taaaagggcc aaagccatga aaacaaaaga gccggttaaa aaattttttgt   180
tggtggcctt tctccagata cacctgaaga gaaaataagg gagtactttg gtggttttgg    240
tgaggtggaa tccatagagc tccccatgga caacaagacc aataagaggc gtgggttctg    300
ctttattacc tttaaggaag aagaaccagt gaagaagata atggaaaaga aataccacaa    360
tgttggtctt agtaaatgtg aaataaaagt agccatgtcg aaggaacaat atcagcaaca    420
gcaacagtgg ggatctanag gaggatttgc angaagagct cgtggaagan gtggtggccc    480
cactcaaaac tggaaccang gatatantna ctattggaat cnaggctatg gcaactatgg    540
atatnacagc ccaggttacc gtggttntgg aagatatgac tncactggtt acnacaacta    600
ctatggatat ggtgattat                                                 619
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<210> 639
<211> 694
<212> DNA
<213> Homo Sapiens

<400> 639

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cggcggcgcc attaaagcga ggaggangcg agagcggccg ccgctggtgc ttattctttt    60
ttagtgcagc gggagagagc gggagtgtgc gccgcgcgag agtgggaggc gaagggggca    120
ngccagggan aggcgcagga gcctttgcag ccacgcgcgc gccttccctg tcttgtgtgc    180
ttcgcgaggt acagcgggcg cgcggcancg gcggggatta ctttgctgct agtttcggtt    240
cgcggcagcg gcgggtgtat tctcggcggc agcggcggag acactatcac tatgtcggag    300
gancanttcg gcggggacgg ggcggcggca ncggcaacgg cggcggtagg cggctcggcg    360
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gaccgggacc ggggggcggaa ccgcntctgg angctccnaa gggggcnncg ccnaatccga    480
aggggcgaaa attgaccccg tatgaaccaa gaagatgaat ggaaaatgtt tatangaagc    540
cttanctggg acactnccca gaaagatctg aaggactact tttccnaatt ttgggtgaaa    600
ttgttaaact gccctcttga aattttnatn ctatcccngg ggcnatcaaa ggggtttttg    660
gctttttcc tattttaaac aaatcccgaa aaat                                 694
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<210> 640
<211> 728
<212> DNA
<213> Homo Sapiens

<400> 640

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cgccactgcn gcaggaggcg tgaggggata aaaacattca gatggcagat cacagttttt    60
cagatggggt tccttcagat tccgtggaag ctgctaaaaa tgcaagtaac acagaaaagc    120
tcacagatca ggtgatgcag aatcctcgag ttctggcagc tttacaggag cgacttgaca    180
atgtccctca caccccttcc agctacatcg aaactttacc taaagcagta aaaagaagaa    240
ttaatgcatt gaaacaactt caggtgagat gtgctcacat agaagccaag ttctatgaag    300
```

```
aggtacatga cttggaaaga aagtatgcag cgctatacca gcctctcttt gacaagagaa    360
gagaatttat caccggcgat gctgaaccaa cagatgcgga atcggaatgg cacagtgaaa    420
atgaagagga agagaaattg gctggagaca tgaaaagtaa agtagtcgtc acagaaaaag    480
cagcggcaac ggctgaagag ccagatccca naggaattcc agagttctgg tttaccatct    540
tcagaaatgt ggacatgctg agtgaattan tccaggaaat atgatgaacc aatcttgaaa    600
acacctgcag gatnttaaag ttgaaatttt ctgaccctgg acagcctatg tcttttgtgt    660
tagaattcca ctttgaaccc cacgactact ttaccaactc agtcctgaca aaaaccttac    720
cagatgaa                                                            728
```

```
        <210> 641
        <211> 732
        <212> DNA
        <213> Homo Sapiens

        <400> 641
acctaattag atagaagttc aggaatttct atttctttg ggttgatgaa ccacaggcta     60
gcataagtcc actgtcaata aatgtttgtt gtggccagac ctccataaaa gagatattcc    120
ctgtgttcac aagttccctg aagcttaggt tttgagagaa tattgttgag tcactaggca    180
gggctcacat aggaaactgg caatcacctc tgaaactgct tcacagacac ctgcttttcc    240
tgctctgttc ctcanacttc tcctcttcaa gcgtattccc cccacaacaa ggacagcagc    300
ttggactaca tatctggctg atgatgtaat aaaaagatta ggcatggggg tttcctaagc    360
cacaattcag ggccactctg caccaacaga gataagcacc caggtggaag ccccccttcc    420
ccgagcctca tacattgtca tcatcttcta tggcctcccc agtgaagtac agcacagccc    480
gcgggactat ccgctcacgg aaaaagtgtc caatttcaaa atcagaagct aatgtgaatt    540
caaaatcttc atccagtgat ctccatcccc ggatgctttc caatggattg aagaaattga    600
aaaaggactc attgggtact gtttcgtaat tgttctaaca gtgcctcaac cttatgcttc    660
tgctttncnt ggaaggtntt gaaagtaaca ttcttncctt cttccaantc aattattnac    720
ccccgttcac aa                                                       732
```

```
        <210> 642
        <211> 582
        <212> DNA
        <213> Homo Sapiens

        <400> 642
gcttttcttc ttcctcctct tctgattctg gctcttgctt tatttgtggc tgcctgcgcc     60
tctcagcctc ttgttccatc ctctggagct ctgcatctgg atctggatgc ccttctgcca    120
naaggcgctg cctgatttcc tcaagctcct ccttctctct cttcctatct cgttcatctg    180
cttccatttc cttttctcta tcacgcaacc ttttctgaaa agcacttcct ctgtaatatt    240
tggggtcatc tctatcatca tcatagtctt ctaanaattc ttttagtcgt ttagcttctt    300
tggccatttc tcttcttctt tcttcttctc tttcagcttc tttctcatat tcccgggttt    360
tctttcgttc tctgatttcc caattcttaa ggcgctcttg ataancagct tctttctctc    420
gganttttct ttcaagtttt cttcgttcgt atgcatcttc ttcatcttct tctcggtccc    480
gtttttttgtc ttttctctt tctcgctccc gttcctctct cnctctctct ctcgctcccg    540
ttctcgttct cgctctcntt ctctctctct ctctctttcc cg                      582
```

```
        <210> 643
        <211> 784
        <212> DNA
        <213> Homo Sapiens

        <400> 643
aagaaaagct caagtttcca agtctcttaa gggagcgatt aggcatgtca gctgatccag     60
ataatgagga tgcaacagat aaagttaata aagttggtga gatccatgtg aagacattag    120
aagaaattct tcttgaaaga gccagtcaga aacgtggaga attgcaaact aaactcaaga    180
```

```
cagaaggacc ttcaaaaact gatgattcta cttcagggag caagaagctc ctccactatc      240
cgtatcaaaa ccttctctga ggtcctggct gaaaaaaaac atcggcagca gggaagcaga      300
gagacnaaaa agcnaaaagg gatacaactt gcatcaagct aaagattgat agtgaaatta      360
aaaaaacagt agttttgcca cccattgttg ccagcagagg acaatcagag gagcctgcag      420
gtaaaacaaa gtctatgcag ggaggtgcac atcaagacgc tggaaganat taaactggag      480
anggcactga gggtgcagca gagctctgag agcagcacca gctccccgtc tcaacacgag      540
gccactccag ggggcnaggc ggctgctgcg aatcaccnnn agaaccggga tgaaagaaga      600
gaagancctt ccgggaaggg aatgaagttg attctcagag cngtattaga acngaagcta      660
aagangctcc gggtgagaac nccggggttg acctccctaa aattccagtc cagagatgtn      720
agacctgaaa gagaacccct gccganaccg ccgggaaagg ganaaatccg tcttgacccc      780
cttc                                                                   784
```

```
        <210>  644
        <211>  749
        <212>  DNA
        <213>  Homo Sapiens

        <400>  644
cctacatcag ttttatttaa aacacaaaca agtatttctc tttctgtaag ggcaaatggt       60
tcaaataatg cggaacacga aacattgact aatacaagtg ctttaaatat gaaacaaaat      120
tatttttttaa aaaagcaaaa naataaagaa tatatacaaa agggacctgn aatctgtaag      180
gtgattccaa aaacnaaata antagaaaat ccatggtgaa acctgaacat tctacctctg      240
ctttggagaa gggctatcat acaacattca gtcagctgaa natggattgg tanaggtgtg      300
tctatacata aacttcagtc atttttgctt gtgcanaatc atcccaatct tcccaanact      360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt      420
caactcttga tgagccgctt acaacagcag ttccttaggg agccaacatg acaggtgggt      480
canatttccc tatgagaaac aaaactggcc acctacagca aaatatcaaa atgggtaagt      540
ccttccttcc tcttcctcct gattatatac aacatatctc ctttcaagac tattatttcc      600
atcatgctta ttccttcaca aatctaaacc ttgaggtgat atgaaggaaa ccancntcaa      660
aaaaaagaaa actcaattcc gaaatgaana aaactgggcn nggtatncaa tacnccccan      720
aacatctcca tatccctggc ccagttacc                                        749
```

```
        <210>  645
        <211>  751
        <212>  DNA
        <213>  Homo Sapiens

        <400>  645
agactttcct acatcagttt tatttaaaac acaaacaagt atttctcttt ctgtaagggc       60
aaatggttca ataatgcgg aacacgaaac attgactaat acaagtgctt taaatatgaa      120
acaaaattat ttttaaaaaa agcaaaagaa taaagaatat atacaaaagg gacctggaat      180
ctgtaaggtg attccaaaaa cgaaataagt agaaaatcca tggtgaaacc tgaacattct      240
acctctgctt tggagaaggg ctatcataca acattcagtc agctgaagat ggattggtag      300
aggtgtgtct atacataaac ttcagtcatt tttgcttgtg cagaatcatc ccaatcttcc      360
caanactgaa tgggcagtcc tgtggctttc ttccttttcc atattcccaa caaggctacg      420
tgaagttcaa ctcttgatga gccgcttaca acagcagttc cttaggancc caacatgaca      480
ggtgggtcag atttccctat gagaaacaaa actggncacc tacagcaaaa tntcaaaatg      540
ggtaagtcct tccttcctct tcctcctgat tatntacaac atatctcctt tcaagantat      600
tatttccatc atgcttattc cttcccaaat ctaaaccttg aaggtgattt gaagggaaac      660
cnccatccnn aaaaagaaaa acccattccc aaattgaaaa aaaactnggc agggtataca      720
atacaccccc canaaactcn ccaatttttcc c                                    751
```

```
        <210>  646
        <211>  760
        <212>  DNA
```

<213> Homo Sapiens

<400> 646
```
cctacatcag ttttatttaa aacacaaaca agtatttctc tttctgtaag ggcaaatggt      60
tcaaataatg cggaacacga aacattgact aatacaagtg ctttaaatat gaaacaaaat     120
tattttttaa aaaagcaaaa gaataaagaa tatatacaaa agggacctgg aatctgtaag     180
gtgattccaa aaacnaaata agtagaaaat ccatggtgaa acctgaacat tctacctctg     240
ctttggagaa gggctatcat acaacattca gtcagctgaa natggattgg tagaggtgtg     300
tctatacata aacttcagtc atttttgctt gtgcanaatc atcccaatct tcccaanact     360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggct acgtgaagtt     420
caactcttga tgagccgctt acaacagcag ttccttagga gccaacatga caggtgggtc     480
aaatttccct atganaaaca aaactggcca cctacagcaa aatatcaaaa tgggtaantc     540
cttccttcct cttcctcctg attatataca acatatctcc tttcaagact attattccat     600
catgcttatt ccttcacaaa tctaaacctt gaagtgatat gaangaaacc nccntccaga     660
aaagaaaact cnantcanaa atgaaaaaaa ctggcaggta tncaatacac cccaaaacnt     720
ctcaatntcc tggcacanta caatccattg ttctgctaca                          760
```

        <210> 647
        <211> 1041
        <212> DNA
        <213> Homo Sapiens

        <400> 647
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caaaggcgac agctgcccat tccgtcactg tgaagctgca ataggaaatg aaactgtttg      60
cacattatgg caagaagggc gctgttttcg acaggtgtgc aggtttcggc acatggagat     120
tgataaaaaa cgcagtgaaa ttccttgtta ttgggaaaat cagccaacag gatgtcaaaa     180
attaaactgc gctttccatc acaatagagg acgatatgtt gatggccttt tcctacctcc     240
gagcaaaact gtgttgccca ctgtgcctga gtcaccagaa gaggaagtga aggctagcca     300
actttcagtt cagcagaaca aattgtctgt ccagtccaat ccttcccctc agctgcggag     360
cgttatgaaa gtagaaagtt ccgaaaatgt tcctagcccc acgcatccac cagttgtaat     420
taatgctgca gatgatgatg aagatgatga tgatcagttt tctgaggaag gtgatgaaac     480
caaaacacct accctgcaac caactcctga agttcacaat ggattacgag tgacttctgt     540
ccggaaacct gcagtcaata taaagcaagg tgaatgtttg aattttggaa taaaaactct     600
tgaggaaatt aagtcaaaga aaatgaagga aaaatctaag aagcaaggtg agggttcttc     660
aggagtttcc aagtctttta ctccaccctg agcccgttcc aagtcctgaa aaagaaaatg     720
tcaggactgt ggtgaaggac agtaactctc tccaacaaac aanggagaaa gaaccttgg     780
gtagattgag tcctactgan agacggggga aacgaaaant tcagcaagcg gtgacaagtg     840
atcctccaat aaagcgttac cctgcacaaa ggctagggaa aaaaanttaa ancccanaaa     900
actaacattg acaaaaccac caaagaaagc tcaagnttcc aagtcccta agggaccgan      960
taagcatgtc aaccggatca anataatgng gntgcaacag ttaaagntta aaaaattggg    1020
gaaattcagt taaaacattt g                                             1041
```

        <210> 648
        <211> 810
        <212> DNA
        <213> Homo Sapiens

        <400> 648
```
ccctacatca gttttattta aaacacaaac aantatttct ctttctgtaa gggcaaatgg      60
ttcaaataat gcggaacacn aaacattgac taatacaant gctttaaata tgaaacaaaa     120
ttatttttta aaaaagcaaa agaataaana atatatacaa aagggacctg naatctgtaa     180
gctgattcca aaaacnaaat aantanaaaa tccatggtga aacctgaaca ttctacctct     240
gctttggana agggctatca tacaacattc antcagctga aaatggattg gtaaaggtgt     300
gtctatacat aaacttcant cattttgct tgtgcaaaat catcccaatc ttcccaaaac     360
tgaatgggca gtcctgtggc tttcttcctt ttccatattc ccaacaaggc tacntgaant     420
```

```
tcaactcttg atnagccgct tacaacagca gttccttagg agccaacatg acaggtgggt    480
caaatttccc tatgaanaaa caaaactggc cacctacagc aaaatatcaa aatgggtaag    540
tccttccttc ctcttcctcc tgattatata caacatatct cctttcaaga ctattatttc    600
catcatgctt attccttcac aaatctaaac cttgaggtga tatgaaggaa accancatca    660
agaaaagaaa accaattcan aaatgaanaa aactggcagg tntacaatac accccananc    720
atctcaatat ccctggcaca gttacaattc agtgttctgc tacagcccat aaaataaata    780
ttggcagctt gaataancnc attttttccc                                     810
```

        <210> 649
        <211> 656
        <212> DNA
        <213> Homo Sapiens

        <400> 649

```
cccnacatca ntttttattta aaacacaaac aattatttct cttnctgtaa gggcaaatgg    60
ttcaaataat gcgnaacaca aaacnttgac taatacaatt gctttaaata tnaaacaaaa    120
ttattttta aaaaancaaa aaaataaaaa atatntacaa aagggacctg aaatctgtaa    180
nctnatncca aaaacaaaat aattaaaaaa tccatggtna aacctnaacn tnctacctct    240
gcttnggaaa agggctatca tacaacntnc antcanctna aaatggatng gtaaaggtnt    300
ntctatacat aaacttcant cattttngct tgtgcaaaat cancccaatc tncccaaaac    360
tnaatgggca ntcctgtggc ttnctncctt tnccatatnc ccaacaaggc tacttnaatt    .420
tcaactcttn ataanccgct tacaacagca ntncccttagn anccaacatn acaggtgggt    480
caaattcccc tataaaaaac aaaactggcc ncctacanca aaatatcaaa atgggtaatt    540
ccttcctncc tctnccncct nattatatac aacatttctc ctttcaaaac tattattncc    600
atcatgcttn ttcctncaca aatctaaacc ttgangtgat ttgaaggaac cacctc        656
```

        <210> 650
        <211> 645
        <212> DNA
        <213> Homo Sapiens

        <400> 650

```
gaacttcccn acnncatttt tatttaaaac ncaaacaatt nttncncttn ctntangggc    60
aantggtnca aatantgcgn aacncaaaac tttnactaat acaattgctt taaatntaaa    120
ncaaanttat tttttaaaaa accaaaaaaa taaaaaatnt ttccaaangg gacctgaaan    180
ctntaaccta atcccaaaaa caaaataatt aaaaannccn nggtnaancc tnaacntnct    240
nccnctnctt tgnaaaaggg ctatcanaca acntncattc ncctaaaaat gnatnggtaa    300
aggtttttct anacataaac ttcattcatt ttggcttntn caaaancacc ccaanctncc    360
caaaactnaa tgggcnncct ntggcttnct cccttttccca tntncccaac aaggctactt    420
naattncaac ncttnataac ccccttacaa caccattncc ttagnaccaa cataacaggt    480
gggtcaaatt ncccnataaa aaacaaanct ggcccctncc ccaaaatncc caaatgggta    540
ttcctncctn ccctccccccc ngnatatata caacatntcc cctttcanaa atatattccc    600
ccacgcttat tccncccaaa nntaanccttt gaagttattt aagga                   645
```

        <210> 651
        <211> 780
        <212> DNA
        <213> Homo Sapiens

        <400> 651

```
ccttgacctc ccaaagtgct gagattacag gcctgagcca ctgcaccttg ccttccttac    60
ctcttttctc cgacattttt atgtttctaa cattgaactc taaggaagct ggtgaacaaa    120
cacgccatat gtatgcagaa cacttaacag aattatgcta tgttgtctgt ttttgtttgt    180
atttcttgtc cttgctgaag attgacttga aatcttaaac taagttctcc ctctttatag    240
gcggtgacag tgatcctcca ttaaagcgta gcctggcaca gaggctaggg aagaaagttg    300
```

```
aagctccaga aactaacatt gacaaaacac caaagaaagc tcaagtttcc aagtctctta    360
aggagcgatt aggcatgtca gctgatccag ataatgagga tgcaacagat aaagttaata    420
aagttggtga gatccatgtg aagacattag aagaaattct tcttgaaaga gccagtcaga    480
aacgtggaga attgcaaact aaactcaaga cagaaggacc ttcaaaaact gatgattcta    540
cttcaggagc aagaagctcc tccactatcc gtatcaaaac cttctctgag gtcctggctg    600
aaaaaaaaca tcngcagcag ggaactgaag agacaaaaaa gccnaaagga tacaacttgc    660
atcaagctaa agattgatag tgaaattaaa aaaaacagta attttngcca cccattgttg    720
ccngcagaag acaatcanaa gaacctgcag gtaaaacaaa ntctatgcag ggaggtgccc    780
```

```
        <210> 652
        <211> 518
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 652
gnacttncct acatcatttt tatttaaaac acaaacaatt ntttcncttt ctgtangggc     60
aaatggttca aataatgcgg aacacaaaac nttnactaat acaattgctt taaatntnaa    120
acaaaattat ttttttaaaaa ancaaaaaaa taaaaaaatnt ttncaaangg gacctgaaat   180
ctntaanctn atnccaaaaa caaaataatt naaaaatcca nggtgaaacc tnaacntnct    240
nccnctgctt tggaaaaggg ctntcataca acnttcattc ncctaaaaat ggattggtaa    300
angttttttnt atacataaac tncattcatt tttgcttntg caaaatcanc ccaanctncc    360
caaaactnaa tgggcantcc tntggctttc tnccttttccc anatncccaa caaggctact    420
tnaatttcaa cncttnataa nccgcttaca acancatttc cttaggancc aacatnacgg    480
tgggtcaaat cccctataaa aaacaaaact ggccncct                            518
```

```
        <210> 653
        <211> 490
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 653
gttaataaag ttggtgagat ccatgtgaag acattagaag aaattcttct tgaaagagcc     60
agtcagaaac gtggagaatt gcaaactaaa ctcaagacag aaggaccttc aaaaactgat    120
gattctactt caggagcaag aagctcctcc actatccgta tcaaaacctt ctctgaggtc    180
ctggctgaaa aaaacatcg gcagcaggaa gcagagagac aaaaaagcaa aaaggataca    240
acttgcatca agctaaagat tgatagtgaa attaaaaaaa cagtagtttt gccacccatt    300
gttgccagca gaggacaatc agaggagcct gcaggtaaaa caaagtctat gcaggggaggt   360
gcacatcaag acgctggaag aaattaaact ggagaaggca ctgagggtgc agcagagctc    420
tgagagcagc accagctccc cgtctcaaca cnaggccact ccaagggcaa ggcggctgct    480
gcnaatcccc                                                          490
```

```
        <210> 654
        <211> 359
        <212> DNA
        <213> Homo Sapiens
```

```
        <400> 654
cccanctccn ttttanttna aancccaacc aattnttccc cttccgntan gggcaatngn     60
tccaattatn ncgaacncca aaccttnaan natnccaatt ncttaaatnt taaaccaaat    120
tnnttttta aaaagccaaa naattaagaa ttttttccaa agggaacnng aatccnttag    180
ggtaatccca aaaccaaatt agttaaaaat ccctggntaa acccnaacnt tccnccnccn    240
ccttggaaaa agggnnnccn ncnaccttcc atncncntaa aaatgaatgg ntaaagnttt    300
ttcnnncctt aacntccatc ctttttgnct nttccaaanc ctccccancc tccccaaaa    359
```

```
        <210> 655
```

```
        <211> 611
        <212> DNA
        <213> Homo Sapiens


        <400> 655
tgaaaaaaaa catcggcagc aggaancaga aagacnaaaa agcaaaaagg atactacttg      60
catcangcta angattgata gtgaaattaa aaaaacagta tttttgccac ccattgttgc     120
cancagagga caatcanagg agcctgcagg taaaannaag tctatgcagg aggtgcacat     180
caagacgctg gaagaaatta aactggagaa ggcactgagg gtgcagcana gctctgagag     240
cagcaccagc tccccgtctc aacacnaagc cactccatgg gcnangcggc tgctgcgant     300
cnccnaaaga ncagggatga angaagagaa gaaccttcag gaaggaaatg aatttgattc     360
tcagancatt attataactg aagctnnana ngcttcnggt gagaccacng ganttgacat     420
cactaaaatt ccagtcaaga gatgtgagac catgagagag aagcacatgc acaaaacanc     480
nngagaggga aaaatcagtc ttgacacctc ttcggggaga tgtagcatct tgcggnaccc     540
aantggcaga gaaaccagtg ctcactgctg tgccaggaat cacncggcac ctgaccaagc     600
ggcttcccac a                                                          611


        <210> 656
        <211> 634
        <212> DNA
        <213> Homo Sapiens


        <400> 656
ccnacatcag ttttatttaa aacacaaaca agtntttcnc tttctgtnag ggcaaatggt      60
tcaaataatg cggaacacna aacattgact aatacaantn ctttaaatat gaaacaaaat     120
tattttttaa aaaancnaaa naataaagaa tatntncaaa agggacctgg aatctgtnag     180
ctgattccaa aaacnaaata anttnaaaat ccntggtgaa acctgaacat tctacctctg     240
ctttggaaaa gggntatcat acaacattca gtcngctgaa aatggattgg taaaagtntn     300
tctatacata aacttcagtc attttttgctt gtncaaaatc atcccaatct tcccaaaant     360
gaatgggcag tcctgtggct ttcttccttt tccatattcc caacaaggnt acntnaantt     420
caactcttga nnanccgctt acaacagcag ttccttagga ncccatgac aggtgggtcn     480
aatttcccta tnaaaaacaa aactgggccc tacagcaaaa tatccaaatg ggtnagtcct     540
tccttcctct tcccctgant atatacacat atctcctttc aanaatanta tttccccatg     600
cttattcctt cccnaatcta aaccttgaag tgat                                 634


        <210> 657
        <211> 958
        <212> DNA
        <213> Homo Sapiens
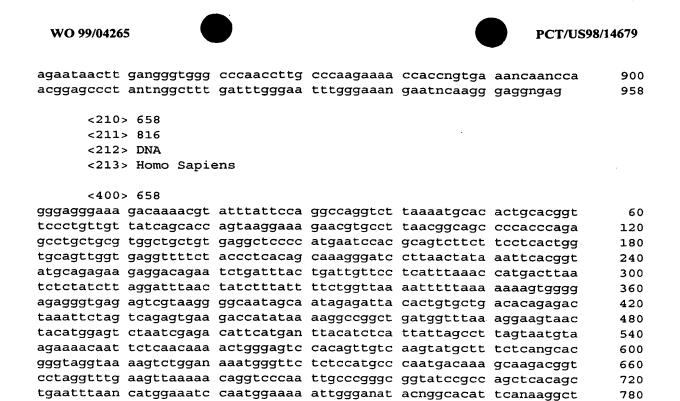

        <400> 657
gaaagaaaag catcatgtaa aaatgaaagc caagagatgt gccactcctg taatcatcga      60
tgaaattcta ccctctaaga aaatgaaagt ttctaacaac aaaaagaagc cagaggaaga     120
aggcagtgct catcaagata ctgctgaaaa gaatgcatct tccccagaga aagccaaggg     180
tagacatact gtgccttgta tgccacctgc aaagcagaag tttctaaaaa gtactgagga     240
gcaagagctg gagaagagta tgaaaatgca gcaagaggtg gtggagatgc ggaaaaagaa     300
tgaagaattc aagaaacttg ctctggctgg aatagggcaa cctgtgaaga aatcagtgag     360
ccaggtcacc aaatcagttg acttccactt ccgcacagat gagcgaatca acaacatcc     420
taagaaccag gaggaatata aggaagtgaa ctttacatct gaactacgaa agcatccttc     480
atctcctgcc cgagtgacta agggatgtac cattgttaag cctttcaacc tgtcccaagg     540
aaagaaaaga acatttgatg aaacagtttc tacatatgtg ccccttgcac agcaagttga     600
agacttccat aaacgaaccc ctaacagata tcatttgagg agcaagaagg atgatattaa     660
cctgttaccc tccaaatctt ctgtgaccaa gatttgcaga gacccacagg actcctgtac     720
tgcaaacaan acaccgtgca cgggctgtga cctgcaaaaa gtacagcaga gctggaggct     780
gaggagctnc gagaaattgc aaccantaca anttccaaag cacgtngaac cttgattccc     840
```

-340-

```
agaataactt gangggtggg cccaaccttg cccaagaaaa ccaccngtga aancaancca    900
acggagccct antnggcttt gatttgggaa tttgggaaan gaatncaagg gaggngag      958
```

```
<210> 658
<211> 816
<212> DNA
<213> Homo Sapiens
```

```
<400> 658
gggagggaaa gacaaaacgt atttattcca ggccaggtct taaaatgcac actgcacggt     60
tccctgttgt tatcagcacc agtaaggaaa gaacgtgcct taacggcagc cccacccaga    120
gcctgctgcg tggctgctgt gaggctcccc atgaatccac gcagtcttct tcctcactgg    180
tgcagttggt gaggttttct accctcacag caaagggatc cttaactata aattcacggt    240
atgcagagaa gaggacagaa tctgatttac tgattgttcc tcatttaaac catgacttaa    300
tctctatctt aggatttaac tatctttatt ttctggttaa aatttttaaa aaaagtgggg    360
agagggtgag agtcgtaagg ggcaatagca atagagatta cactgtgctg acacagagac    420
taaattctag tcagagtgaa gaccatataa aaggccggct gatggtttaa aggaagtaac    480
tacatggagt ctaatcgaga cattcatgan ttacatctca ttattagcct tagtaatgta    540
agaaaacaat tctcaacaaa actgggagtc cacagttgtc aagtatgctt tctcangcac    600
gggtaggtaa aagtctggan aaatgggttc tctccatgcc caatgacaaa gcaagacggt    660
cctaggtttg aagttaaaaa caggtcccaa ttgcccgggc ggtatccgcc agctcacagc    720
tgaatttaan catggaaatc caatggaaaa attgggganat acnggcacat tcanaaggct    780
ggtcctttga cttatctcca naacccgggt actggc                             816
```

```
<210> 659
<211> 726
<212> DNA
<213> Homo Sapiens
```

```
<400> 659
tgagaaaagt ggtacaaata ctgggaaaaa cctgctcttc tgcgttaagt gggagacaat     60
gtcacaagtt aaaagctctt attcctatga tgcccctcg gatttcatca attttcatc     120
cttggatgat gaaggagata ctcaaaacat agattcatgg tttgaggaga aggccaattt    180
ggagaataag ttactgggga agaatggaac tggagggctt tttcagggca aaactccttt    240
gagaaaggct aatcttcagc aagctattgt cacacctttg aaaccagttg acaacactta    300
ctacaaagag gcagaaaaag aaaatcttgt ggaacaatcc attccgtcaa atgcttgttc    360
ttccctggaa gttgaggcag ccatatcaag aaaaactcca gcccagcctc agagaagatc    420
tcttaggctt tctgctcaga aggatttgga acagaagaa aagcatcatg taaaaatgaa     480
agccaagaga tgtgccactc ctgtaatcat cgatgaaatt ctaccctcta agaaaatgaa    540
agtttctaac ancacaaaga agccagagga agaaggcagt gctcatcaag atactgctga    600
aaagaatgca tcttcccaa gagaaagcca agggtagaca tactgtgcct tgtatgccac     660
ctgcanagca gaagtttcna aaangtactg angagcaang aatctggaga agagtatgaa    720
aaatgc                                                              726
```

```
<210> 660
<211> 824
<212> DNA
<213> Homo Sapiens
```

```
<400> 660
aggatttaac tatctttatt ttctggttaa aattttaaa aaaagtgggg agagggtgag      60
agtcgtaagg ggcaatagca atagagatta cactgtgctg acacagagac taaattctag    120
tcagagtgaa nacccatata aaaggccggc tgatggttta aggaagtaa ctacatggag     180
tctaatcgag acattcatga gttacatctc attattagcc ttagtaatgt aagaaaacaa    240
ttctcaacaa aactggagtc cacagttgtc aagtatgctt tctcaggcac gggtaggtaa    300
```

```
aagtctggan aaatgggttc tctccatgcc caatgacaaa gcaagacggt cctaggtttg    360
aggttaagan caggtcccat tgccgggcgg tatccgcagc tcacagctga ntttagcagt    420
ggaatcgagt ggagaatttg gggagataca ggcncagtca gaggctggtc acttgacttt    480
atctccagac cctggtactt gcgtattgga tttgccttat gcaccagttc tctccgtagc    540
ctggccanct cctctttttt ctgctcttcc tcctgtagtc tggcctcctc caactgctgg    600
gctttctggg cttctacctc agccattctc ttctccagct ccctgccgct ctttggctct    660
ctctcagtag cccactgaaa angtccctga acnaaaaaaa ccanaaanng gccctcacaa    720
ctgatttcnt ctctttcttg gggaaccaag ggccctgaa aaaanaaacg gtgtttggaa    780
caaaccntga aacaagcngc ctccttctgc ctgtcccaat tcct                     824
```

        <210> 661
        <211> 399
        <212> DNA
        <213> Homo Sapiens

        <400> 661
```
ggtttgnagg gaaaaanaaa actttttttt cccagnccag ttcttaaant ncccnngcn     60
nggtcccctn tnttttcnc ccccattaag gaaaaaactt gcntnancgg nagcccccc     120
caaaaccctnc tgcttggctg ctttaaggnc cccataannc cccccatnnt cctcccccac   180
tggtncattg gtnaggtttc ctcccccccn ccaaaggnnt ccttacntat aaatcccngg    240
tttncaaaaa aaaanananaa accaatttcn gatnntcccc cttnaancca gnacttaatc   300
cctntctnag gattnaacaa ccttttttn cgggttaaaa ttttaaaaa aattngggaa     360
anggttaaat ccttaggggg aatnccnata aaaattacc                          399
```

        <210> 662
        <211> 826
        <212> DNA
        <213> Homo Sapiens

        <400> 662
```
gtcaaatgct tgttcttccc tggaagttga ggcagccata tcaagaaaaa ctccagccca    60
gcctcagaga agatctctta ggctttctgc tcagaaggat ttggaacaga aagaaaagca   120
tcatgtaaaa atgaaagcca agagatgtgc cactcctgta atcatcgatg aaattctacc   180
ctctaagaaa atgaaagttt ctaacaacaa aaagaagcca gaggaagaag gcagtgctca   240
tcaagatact gctgaaaaga atgcatcttc cccagagaaa gccaagggta gacatactgt   300
gccttgtatg ccacctgcaa agcagaagtt tctaaaaagt actgaggagc aagagctgga   360
gaagagtatg aaaatgcagc aagaggtggt ggagatgcgg aaaaagaatg aagaattcaa   420
gaaacttgct ctggctggaa tagggcaacc tgtgaagaaa tcagtgagcc aggtcaccaa   480
atcagttgac ttccacttcc gcacagatga gcgaatcnaa caacatccta ngaaccagga   540
ggaatataag ggaagtgaac tttacatctg aactacgaaa gcatccttca tctcctgccc   600
gaantgacta aggggatgtt ccattgttaa gcctttcaac ctgtcccngg gaaagaanag   660
aacntttgat gaaacagttt ctacatatgt gccccttgcc cngcaagttg aagacttccn   720
taancgaacc ctnactgatt tcttttgang aaccagaang gntgattttn ccctgtttcc   780
ctccaatctt ctgtgaacaa gatttggccg aanaccccg aacccc                   826
```

        <210> 663
        <211> 770
        <212> DNA
        <213> Homo Sapiens

        <400> 663
```
gggaaagaca aaacgtattt attccaggcc aggtcttaaa atgcacactg cacggttccc    60
tgttgttatc agcaccagta aggaaagaac gtgccttaac ggcagcccca cccanagcct   120
gctgcgtggc tgctgtgagg ctccccatga atccacgcag tcttcttcct cactggtgca   180
gttggtgagg ttttctaccc tcacagcaaa gggatcctta actataaatt cacggtatgc   240
```

```
anagaanagg acagaatctg atttactgat tgttcctcat ttaaaccatg acttaatctc      300
tatcttagga tttaactatc tttattttct ggttaaaatt tttaaaaaaa gtggggagag      360
ggtgagagtc gtaaggggca atagcaatag agattacact gtgctgacac agagactaaa      420
ttctagtcag agtgaagacc catataaaag gccggctgat ggtttaaagg aagtaactac      480
atggagtcta atcgagacat tcatgagttn catctcatta ttagccttag taatgtaaga      540
aaacnattct caacaaaact ggagtccaca gttgtcaant ntgctttctc aggcacgggt      600
aggtnaaaat ctgganaaat gggttctctc catgcccaat gacaancaan anggtcctag      660
gtttgaagtt aaaaacangt cccattgccg gcggtatccg cagctcacag ctgaatttac      720
cngtggaatc aantggaaaa tttgggaaaa tacnggccca atcaaaaggt                 770
```

```
        <210> 664
        <211> 593
        <212> DNA
        <213> Homo Sapiens

        <400> 664
gaaganctga gcagcacagc actggtgaag aagagctgcc tggcggagct cctccggctt       60
tacaccaaaa gcagcagctc tgatgaggag tacatttata tgaacaaagt gaccatcaac      120
aagcaacaga atgcagagtc tcaaggcaaa gcgcctgagg agcagggcct gctacccaat      180
ggggagccca gccagcactc ctcggcccct cagaagagcc ttccagacct cccgccaccc      240
aagatgattc cagaacggaa acagcttgcc atcccaaaga cggagtctcc agagggctac      300
tatgaagagg ctgagccata tgacacatcc ctcaatgagg acggagaggc tgtgagcagc      360
tcctacgagt cctacgatga anaggacggc agcaagggca agtcggcccc ttaccantgg      420
ncctcgccgg aggccggcat cganctgatg cgtgacgccc gcntctgcgc cttcctgtgg      480
cgcaagaaag tggctgggac agtgggccaa gcagctctgt gtcatcnagg acaacaggct      540
tctgtgctnc naatcctcca aggaccccng ccctcagctg gacgtgaacc tac             593
```

```
        <210> 665
        <211> 1024
        <212> DNA
        <213> Homo Sapiens

        <400> 665
aagagattga agcaaatgaa tggaagaaga aatacgaaga gacccggcaa gaagttttgg        60
agatgaggaa aattgtagct gaatatgaaa agactattgc tcaaatgatt gaagatgaac      120
aaaggacaag tatgacctct cagaagagct tccagcaact gaccatggag aaggaacagg      180
ccctggctga ccttaactct gtggaaaggt ccctttctga tctcttcagg agatatgaga      240
acctgaaagg tgttctggaa gggttcaaga agaatgaaga agccttgaag aaatgtgctc      300
aggattactt agccagagtt aaacaagagg agcagcgata ccaggccctg aaaatccacg      360
cagaagagaa actggacaaa gccaatgaag agattgctca ggttcgaaca aaagcaaagg      420
ctgagagtgc agctctccat gctggactcc gcaaagagca gatgaaggtg gagtccctgg      480
aaagggccct gcagcagaag aaccaagaaa ttgaaggaac tgacaaaaat ctgtgatgag      540
ctgattgcaa agctgggaaa gactgactga gacactcccc ctgttagctc aacagatctg      600
catttggctg cttctcttgt gaccacaatt atcttgcctt atccaggaat aattgcccct      660
ttgcaganga aaaaatata cttaanaaaa gcacatgcct actgctgcct gtcccgcttt      720
gctgccaatg caacagccct ggaagaaaac cctatanggn tgcatagtct aaaaagggag      780
ttgtngactn gacagtgctg ggagcctnct agtttccccc cnatgaaagg ttcccttagg      840
ctgctgagtt tggggtttgt gatttaacct taagtttgtt ttaaagtcca ncttaacttt      900
cccaaattgt gtttaaaatt tgtaacnccc cctttggggt cttcccaaca accggtccga      960
ttttttttggn gatcggttta accctttaaa tttttagta nccagtgggg tttaatttag     1020
ggga                                                                  1024
```

```
        <210> 666
        <211> 734
        <212> DNA
```

<213> Homo Sapiens

<400> 666

```
gagacaagat cttgctgtca cccaggatgg agtgcagtgg catgatcatg gctcactgca        60
gccttgacct cccaggctcc cacctcagcc tcccaagtag ctgggaccac aggcacgtgc       120
caccatgccc agctaatttt tattttggta nanacaaggt ttcaccatgt tgcctaggta       180
ggtttcaaac tcctggactc aagtgatcct cctgcctcgg ccttccacag tgttgggatt       240
acaggaataa gccactgtgc ccggcccttt ttctcttctg taacagantt tattactgcc       300
tagctagcag gttatttggc cctcacatgt gttgaggcaa actctatact atattcttac       360
tctccanagt tccaaaatcc tttattttta aanaaaaata aacaaacata cttcattctg       420
cccagtatat tctcttgatc tgtacaagct acgattttaa ttctctttgg gagaggaagc       480
atctgttaag ttcgaatggg ggatatttcc tcataacggt catggctgan aagccaggac       540
aattatcact taacgaaggt cctttggtgc tccctgtgca tcagcttcat tcactggggt       600
caggttctta aggggtctct tccaccaatg tgctagggaa gggctgccat cacctctgtt       660
taacacatag ctactttctt aaaccnataa gcttaaaaaa gangactatg gaattaccaa       720
tggaaggcnt ataa                                                        734
```

<210> 667
<211> 592
<212> DNA
<213> Homo Sapiens

<400> 667

```
gttatgaana cctttccaaa ttcatttgta tttctgttaa atttattttt tacttttaga        60
gtggctatca ttataatgta atttaaaatt atatttgtaa aagtgactat tggagtgagt       120
acgaattttg tttatanatc tatgataaat gcattctccc ntaggaggt agaanagtat       180
acagctgtnt ataataagct tcgctatgaa catacatttc tcaagtcaga atttgaacac       240
cagaaggaag agtatgcacg tnttttagat gaangaaacn ataaactatg aatcagagat       300
ngcaanactg gaggaagatn aagaagaact acgtanccag ctgcttaatg tngatctcac       360
anaagacagc aaacgagtgg aacaacttgc tcgagaaaaa gtctatttgt gtccaaaatt       420
aagangttta gaggctgaag taccngaatt aaaggctgaa naggagaatt ctgangctca       480
ggtggaaaat gcccaaanaa tacacgtgcg gcagttggct gagatgcacg ctacagtcag       540
atccctggag gctgacaanc aatcanctaa tttacgggca naacgcttgg aa             592
```

<210> 668
<211> 373
<212> DNA
<213> Homo Sapiens

<400> 668

```
aaaaaaaaat taagctcttt aattatgtgc acacagattt tagaaaaggt agccttttgt        60
atatanatac ctttacattc tttaggntga nttttaaatt gtcatctttt ttcaactaca       120
gtttttgtnt atagtaaacc anaanatgtg tntggaccct gttatggnca agcatctcaa       180
agatgaagan agaattaatg atagttatat ttcactcaaa atgccaaaaa aaaaaattca       240
acaaagtaaa aattttaaaa cttgactcta actagttcct ttttgtttta cattctcaaa       300
ccattgtnaa atattctaaa tatctctgaa aatttctctt ttaatgcttc acttgtntaa       360
tcttaaaatc ctg                                                         373
```

<210> 669
<211> 661
<212> DNA
<213> Homo Sapiens

<400> 669

```
cacacctggt ggtcctgaag acagcccagg acccagggat ctcccccagc cagagtctgt        60
```

```
gtgcggaaag ttccagaggc ctcagtgcag gctccctgtc ggagagtgca gttgggcccg      120
tggaggcatg ctgcctggtc atcctggctg cagagagcaa ggtcgctgcg gaggagcttt      180
gctgtctgct aggccaggtc ttccaggttg tttacacgga gtccaccatc gactttctgg      240
acagagcgat atttgatggg gcctctaccc cgacccacca cctgtccctg cacagcgatg      300
actcttctac aaaagtggac attaaggaga cctacgaggt ggaagccagc actttctgct      360
tccctgaatc tgtggatgtg ggtggtgcat caccccacag caagaccatc agtgagagcg      420
agctgagcgc cagcgccact gagctgctgc aggactacat gctgacgctg cgcaccaagc      480
tgtcatcaca ggagatccag cagtttgcag cactgctgca cgagtaccgc aatggggcct      540
ctatccacga nttctgcatc aacctgcggc agctctacgg ggacagccgc aagttcctgc      600
tgcttggtct gaagcccttc atccctgaaa angacagcca gcacttcnag aacttcctgg      660
a                                                                      661
```

```
        <210> 670
        <211> 401
        <212> DNA
        <213> Homo Sapiens


        <400> 670
aaattattca cattgcagta aacttctttt taaggtctct gaaagttaca ataggaacat       60
catgtgcaaa actgacagcc gtccaagggc ccagccgaca ggactggctc tccctgcccg      120
ctcggccggg ccctccccga gcggggacac actgcagggc ttggctgaac cctggtggac      180
aaggcaaana nccttccacc ccgcactgag gctcgtgtcc ctcggcagct ccctgctcct      240
tcacagtaaa ngacctgggc cgcccggggc catctgcacc gggcgcctct ccctggccac      300
caccaagggc tgacacgcag gtctgggcag ctccttctgg gaaggcctat gacgactgcg      360
ccgaaggtgt gggtgccccc ccatccactg tccatcatgc c                         401
```

```
        <210> 671
        <211> 1347
        <212> DNA
        <213> Homo Sapiens


        <400> 671
aagatcagcg atatcacgcg tcccccggag catcgcgtgc aggagccatg gcgcgggagc       60
tataccacga agagttcgcc cgggcgggca agcaggcggg gctgcaggtc tggaggattg      120
agaagctgga gctggtgccc gtgccccaga gcgctcacgg cgacttctac gtcggggatg      180
cctacctggt gctgcacacg gccaagacga gccgaggctt cacctaccac ctgcacttct      240
ggctcggaaa ggagtgttcc caggatgaaa gcacagctgc tgccatcttc actgttcaga      300
tggatgacta tttggggtggc aagccagtgc agaatagaga acttcaagga tatgagtcta      360
atgactttgt tagctatttc aaaggcggtc tgaaatacaa ggctggaggc gtggcatctg      420
gattaaatca tgttcttacg aacgacctga cagccaagan gctcctacat gtgaagggtc      480
gtanagtggt gagagccaca gaattcccct tagctgggac agtttcaaca agggtgactg      540
cttcatcatt gaccttggca ccgaaattta tcanttggtg tggttcctcn tgcaacaaat      600
atgaacgtct gaaggcaaac caggtagcta ctggcattcg gtacaatgaa aggaaaggaa      660
ggtctgaact aattgtcgtg gaanaaggaa gtgaaccctc agaacttata aaggtcttag      720
gggaaaagcc agagcttcca gatggaggtg atgatgatga cattatanca gacataagta      780
acaggaaaat ggctaaacta tacatggttt cagatgcaag tggctccatg agagtgactg      840
tggtggcana agaaaacccc ttctcantgg caatgctgct gtctgaagaa tgctttattt      900
tggaccacgg ggctgccaaa caaattttcg tatggaaagg taaagatgct aatccccaag      960
agaggaaggc tgcaatgaag acagctgaag aatttctaca gcaaatgaat tattccaaga     1020
atacccaaat tcaagttctt ccagaaggag gtgaaacacc aatcttcaaa cagttttta      1080
aggactggag agatnaacga tcagagtgat ggcttcggga aagtttatgt cacagagaaa     1140
gtggctcaan tnnaacnaat tcccttttgat gcctcnnaat tacncagttc tccgcagatg     1200
gcagcccagc acaatatggt ggatgatggt tctggccaag tggaaatttg gcgtgtncaa     1260
aacaatggta ggatccaagt tgaccnnaac tcctatggtg actccatgg tggtgactgc     1320
tacttcatac tctacaccta tccctga                                         1347
```

```
<210> 672
<211> 3441
<212> DNA
<213> Homo Sapiens

<400> 672
atgtttctaa cattgaactc taaggaagct ggtgaacaaa cacgccatat gtatgcagaa    60
cacttaacag aattatgcta tgttgtctgt ttttgtttgt atttcttgtc cttgctgaag   120
attgacttga aatcttaaac taagttctcc ctctttatag gcggtgacag tgatcctcca   180
ttaaagcgta gcctggcaca gaggctaggg aagaaagttg aagctccaga aactaacatt   240
gacaaaacac caagaaaagc tcaagtttcc aagtctctta agggagcgat taggcatgtc   300
agctgatcca gataatgagg atgcaacaga taaagttaat aaagttggtg agatccatgt   360
gaagacatta gaagaaattc ttcttgaaag agccagtcag aaacgtggag aattgcaaac   420
taaactcaag acagaaggac cttcaaaaac tgatgattct acttcaggag caagaagctc   480
ctccactatc cgtatcaaaa ccttctctga ggtcctggct gaaaaaaaac atcggcagca   540
ggaagcagag agacaaaaaa gcaaaaagga tacaacttgc atcaagctaa agattgatag   600
tgaaattaaa aaaacagtag ttttgccacc cattgttgcc agcagaggac aatcagagga   660
gcctgcaggt aaaacaaagt ctatgcaggg aggtgcacat caagacgctg gaagaaatta   720
aactggagaa ggcactgagg gtgcagcaga gctctgagag cagcaccagc tccccgtctc   780
aacacgaggc cactccaagg gcaaggcggc tgctgcgaat ccccaaaaga acagggatga   840
aagaagagaa gaaccttcag gaaggaaatg aatttgattc tcagagcatt attataactg   900
aagctaaaga agcttcaggt gagaccacag gagttgacat cactaaaatt ccagtcaaga   960
gatgtgagac catgagagag aagcacatgc acaaaacaac aggagaggga aaaatcagtc  1020
ttgacacctc ttcggggaga tgtagcctct tgcaataccc aagtggcaga gaaaccagtg  1080
ctcactgctg tgccaggaat cacacggcac ctgaccaagc ggcttcccac aaagtcatcc  1140
cagaaggtgg aggtagaaac ctcagggatt ggagactcat tattgaatgt gaaatgtgca  1200
gcacagacct tggaaaaaag gggtaaagct aaacccaaag tgaacgtgaa gccatctgtg  1260
gttaaagttg tgtcatcccc caaattggcc ccaaaacgta aggcagtgga gatgcacgct  1320
gctgtcattg ccgctgtgaa ccactcagct ccagcagtgt cctacaggaa ccccccagcca  1380
aaaaggcagc tgtggctgtt gtcccgcttg tctctgagga caaatcagtc actgtgcctg  1440
aagcagaaaa tcctagagac agtcttgtgc tgcctccaac ccagtcctct tcagattcct  1500
caccccccgga ggtgtctggc ccttcctcat cccaaatgag catgaaaact cgccgactca  1560
gctctgcctc aacaggaaag ccccactct ctgtggagga tgattttgag aaactaatat  1620
gggagatttc aggaggcaaa ttggaagctg agattgacct ggatcctggg aaagatgaag  1680
atgaccttct gcttgagcta tcagaaatga ttgatagctg aagggtggta gtgaggacac   1740
tttaaaaaaa aatcgccaaa aaactggact tagtttcatc tattgtaaca tttacctgag  1800
atgatcattt ctttagtcta gaatttgccc caaatcagaa gtatacctct gaattatctg  1860
tatgtgtcct ggattccttg gggtcagatt tttaaagtta ctttataacc attttgtcca  1920
tttgatgcca ttgtttatca tctttttgaga aaaaagttct gtcataccct tctctccaca  1980
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-346-

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          <211> 1016
          <212> DNA
          <213> Homo Sapiens

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aaattgcaac  aatacaaatt  caaagcacgt  gaacttgatc  ccagaatact  tgaaggtggg        960
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          <210> 674
          <211> 1135
          <212> DNA
          <213> Homo Sapiens

          <400> 674
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ntggtttttt  tngttcaggg  acnttttcag  tgggctactg  agagagagcc  aaagagcggc        180
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        <210> 675
        <211> 1067
        <212> DNA
        <213> Homo Sapiens

        <400> 675
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ctagcctgtg ctaatggaca tacagatgtt gtacttttcc taattgagca acaatgcaaa     180
ataaatgtcc gggatagtga aaacaaatcc ccattgatta aggcagtaca gtgtcaaaat     240
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ttataatact gttcttcact atgctgtttg tggtcaaagt ttgtcattag ttgaaaaact     360
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tgccgttatt aacaataatc caaaaatggt aaaatttctt ctggagaaag gggctgatgt     480
gaatgcttca gataattatc aaagaacagc ccttattctt gctgtcagtg gtgaaccacc     540
atgtttagta aagcttcttc ttcagcaagg tgtggaatta tgttacgaag gtattgtgga     600
ttcacagctg aggaatatgt ttatttccat ggttttactg catagatacc cacaattcac     660
tgcgagccat ggaaagaaga aacatgctaa atagacacct tattcttggc actacatgtg     720
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aatgtacttt gaaagaaccg gttaagtgaa ctatgataat atttttgctg actacccagt     840
tgaagaaaaa gtttcgttaa ttggatggga tttttttttt tcacgttaga agaatgaatg     900
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ttcaatatat aggagaaaaa atttgtgtca aaatgttgaa tggaataata atgagaaact    1020
gtgttaggca tgtattaaaa catttaaata aaataaaaat acatttc                  1067
```

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        <210> 676
        <211> 784
        <212> DNA
        <213> Homo Sapiens

        <400> 676
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atcgtttcca gttacaatgt gactggaata cgtcagattt ttgtattaca ccccaaattt     180
ataatgagtc tgagcatcac tgggacatgg ttagacgcca tctacaggga agagaagata     240
atctcacttt agacatttcc aaattaaaag aacaaatttt cgaagcatca aaagcccatt     300
taaatttggt gccaggaact gaggcaattg caggagttgc tgatggcctc gcaaatctta     360
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```

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        <212> DNA
        <213> Homo Sapiens
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cctcctggag agtgtcaggc tggacaaaga aaaagcagag actttggcta gtagcttgca    1260
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<210> 678
<211> 1771
<212> DNA
<213> Homo Sapiens

<400> 678
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        <213> Homo Sapiens
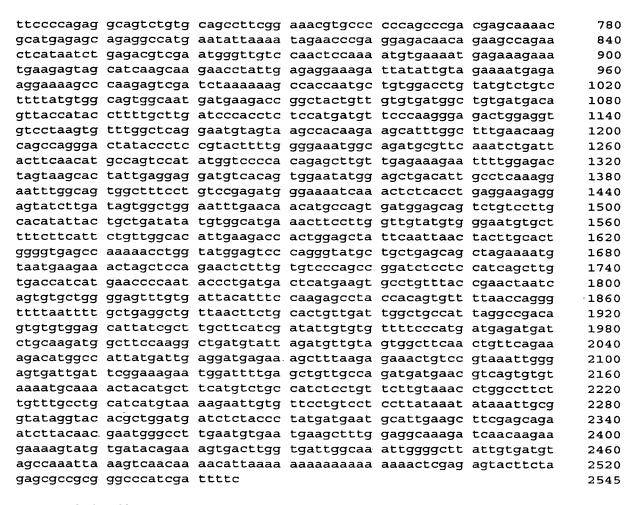
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```

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        <210> 680
        <211> 2545
        <212> DNA
        <213> Homo Sapiens

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     <210> 681
     <211> 1745
     <212> DNA
     <213> Homo Sapiens

     <400> 681
ctagtggatc caaagaattc ggcacgaggg aagatggctt cgtttcggaa gctaacgctt     60
tctgaaaaag tgccgccaaa tcatcccagt cggaaaaagg ttaacttcct agatatgtct    120
ctagacgaca ttataatcta taaagagtta gaagggacaa atgctgaaga agaaaagaat    180
aaaagacaga accatagtaa aaaggaatcg ccttcaagac agcaatcaaa agctcataga    240
catcgccatc ggagaggcta ctcaagatgc agaagcaact ctgaggaagg aaatcatgat    300
aaaaaaccat cccaaaaacc ttctggattc aagtctggac aacacccttt aaatgggcag    360
cctttaattg agcaggagaa gtgcagtgac aattatgagg cccaagcaga aagaatcaa     420
ggccagtcag aggggaacca gcatcaatca gaaggaaatc cggacaaatc agaagaatcc    480
cagggccaac cagaagaaaa tcatcattct gagcgatccc gaaaccactt agagagatct    540
ctttctcagt cagacagatc tcaagggcag ctaaagagac atcatcccca atatgagaga    600
tctcatggcc aatacaagag atctcatggt caatctgaga gatctcatgg ccactcagag    660
agatctcatg gtcactcaga gagatctcat ggtcactcag agagatctca tggtcactca    720
aagagatctc gtagccaggg agatcttgtg gacactcaga gtgatctcat agccactcag    780
agagatctca tagccactca gaaagatctc atagccactc agagagatct catagccact    840
cagagagatc tcatagtcac tcagagagat ctcgtggcca ctgagagaga tctcataaat    900
cagtcaggga gatctcatgg ccaatcagaa agacatcaga gatactcaac aggtaaaaat    960
acaataacta cttaatcatc agaacaatgt gttgaattct gtggaaatag aaaagcatat   1020
```

```
atctatattc taatggctaa atatgtattt gttgaaacat gtatattggg acaaagacat    1080
aaatattaga atggaggtaa tacatacata gtatcaatat tgtttcaact tgatgtcctc    1140
taagctatca tccagttacc caagatgtcc cattaagttg ttcccggtag gtctgctttc    1200
cctggaagag ccgtatgtac tcagcctttc ctattgggcc ttccccacaa ttagaatatt    1260
ttgacttagt gtcctgtccc ccttggacgt tccaacttga cttagtgtcc agtgcccctt    1320
ggacattcca acctggtagg taagctaatc taacaactaa ctgccaaatt gataatatat    1380
aatctatgat aatgaatatc tcttttgtgt ctccttccta agccatcctc agagagtcct    1440
tagcagacaa atggtagatg tatctttggg cagctgaact tttctgcttt cctcaaatca    1500
gaccatatga gaggatatat tctatgcata gatgtaatgc taaccttctg aatatatttt    1560
gaatacattt atatattcac tgttgcctta taaaactgtt agggtaggtc tgtctaccct    1620
agcaaaagaa acacagaaat ttaaatgtac tgggagttat kkkkttaaaa acacaagata    1680
tgttaactgc agtttgtttg gttattcaat aaaagtttta gttttaaaaa aaaaaaaaa    1740
aaaac                                                                1745
```

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        <210> 682
        <211> 1745
        <212> DNA
        <213> Homo Sapiens

        <400> 682
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tctgaaaaag tgccgccaaa tcatcccagt cggaaaaagg ttaacttcct agatatgtct    120
ctagacgaca ttataatcta taaagagtta gaagggacaa atgctgaaga agaaaagaat    180
aaaagacaga accatagtaa aaaggaatcg ccttcaagac agcaatcaaa agctcataga    240
catcgccatc ggagaggcta ctcaagatgc agaagcaact ctgaggaagg aaatcatgat    300
aaaaaaccat cccaaaaacc ttctggattc aagtctggac aacacccttt aaatgggcag    360
cctttaattg agcaggagaa gtgcagtgac aattatgagg cccaagcaga gaagaatcaa    420
ggccagtcag aggggaacca gcatcaatca gaaggaaatc cggacaaatc agaagaatcc    480
cagggccaac cagaagaaaa tcatcattct gagcgatccc gaaaccactt agagagatct    540
ctttctcagt cagacagatc tcaagggcag ctaaagagac atcatcccca atatgagaga    600
tctcatggcc aatacaagag atctcatggt caatctgaga gatctcatgg ccactcagag    660
agatctcatg gtcactcaga gagatctcat ggtcactcag agagatctca tggtcactca    720
aagagatctc gtagccaggg agatcttgtg gacactcaga gtgatctcat agccactcag    780
agagatctca tagccactca gaaagatctc atagccactc agagagatct catagccact    840
cagagagatc tcatagtcac tcagagagat ctcgtggcca ctgagagaga tctcataaat    900
cagtcaggga gatctcatgg ccaatcagaa agacatcaga gatactcaac aggtaaaaat    960
acaataacta cttaatcatc agaacaatgt gttgaattct gtggaaatag aaaagcatat    1020
atctatattc taatggctaa atatgtattt gttgaaacat gtatattggg acaaagacat    1080
aaatattaga atggaggtaa tacatacata gtatcaatat tgtttcaact tgatgtcctc    1140
taagctatca tccagttacc caagatgtcc cattaagttg ttcccggtag gtctgctttc    1200
cctggaagag ccgtatgtac tcagcctttc ctattgggcc ttccccacaa ttagaatatt    1260
ttgacttagt gtcctgtccc ccttggacgt tccaacttga cttagtgtcc agtgcccctt    1320
ggacattcca acctggtagg taagctaatc taacaactaa ctgccaaatt gataatatat    1380
aatctatgat aatgaatatc tcttttgtgt ctccttccta agccatcctc agagagtcct    1440
tagcagacaa atggtagatg tatctttggg cagctgaact tttctgcttt cctcaaatca    1500
gaccatatga gaggatatat tctatgcata gatgtaatgc taaccttctg aatatatttt    1560
gaatacattt atatattcac tgttgcctta taaaactgtt agggtaggtc tgtctaccct    1620
agcaaaagaa acacagaaat ttaaatgtac tgggagttat kkkkttaaaa acacaagata    1680
tgttaactgc agtttgtttg gttattcaat aaaagtttta gttttaaaaa aaaaaaaaa    1740
aaaac                                                                1745
```

```
        <210> 683
        <211> 3127
        <212> DNA
        <213> Homo Sapiens
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<400> 683

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gaattcggca cgagggtcag caattgctta gggcggaatg cgatttcggg ggaggaggcg       60
cgggtatgta gacagagggg gttgggacac accaggaggg gaggagccag ccccagagat      120
cgggaatcct ctcagtcctt agttacaagg ctccatcctc actttgttcg ctcctcagtc      180
gtccaggcgg attccttttt cgccaggcac caaggcacag cttagagtag acccgagtcc      240
tgctctgcgg agttcctctt cccagcgaag gtacagaggc ggatgaactg ctgagacttg      300
attgacgtat tttaagattt ttttaacttc tgaagtctag caggcctgta agaacaaaaa      360
tcattctgta ggaattaaaa acagaatcca gtcttgacaa catatccaca atgtctgatg      420
tatctactag tgtacaatca aaatttgata gacttgcaaa gaaaaaggaa aatatcacct      480
atatgagcag agagcagtta acagaaactg ataaggacat agctccggta ttagcattta      540
aaagtcaagg acgtatcagc aattatgaat aagtttaagg tcttaatgga aattcaagac      600
ctgatgtttg aggagatgag ggaaactctt aaaaatgacc taaaagcagt tttaggagga      660
aaagctacaa tacctgaggt aaagaattca gagaactcca gtagtaggca ggtttcagca      720
aataatcaat ttagcattac aaaaaacagg gatggtaggg aaaatagaag gagaaactct      780
aaaataggtg atgataatga aaatttaacc tttaaattag aagtaaatga gctgagtggt      840
aaattagaca acactaacga atacaatagt aatgatggta agaaattacc ccagggtgaa      900
tcacgaagtt acgaagtcat gggaagtatg gaagaaacct tatgcaatat agatgacaga      960
gatggaaatc gcaatgtcca tttagaattt acagaaagag agagtaggaa ggatggagag     1020
gatgaatttg tcaaagaaat gagagaggaa agaaaatttc agaaattgaa gaataaagag     1080
gaggttttaa aagcctccag agaagaaaaa gtgttgatgg atgaaggagc agtacttacc     1140
ctggcagccg acctttcatc agcaacactg gatattagta agcaatggag taatgtcttc     1200
aacattctga gagaaaatga ttttgaacct aaatttctgt gtgaagttaa attagcattt     1260
aaatgtgatg gtgaaataaa gacattttca gatctgcaaa gccttagaaa atttgccagc     1320
caaaaatctt ctatganaga wttactgana gatgtactcc cacaaaagga agaaataaat     1380
caaggaggaa gaaaatatgg nattcaagaa aaaagggata aaaccctaat agactcanag     1440
catagagctg gagaaataac cagtgatggc ttgagcttcc tatttcttaa agaagtaaaa     1500
gttgctaagc cagaggagat gaaaaactta gagactcaag aggaagagtt ttccgagcta     1560
gaggagctgg atgaagaggc ttcagggatg gaggatgatg aagatacctc agggctggag     1620
gaggaagaag aagaagaggc ttcagggttg gaggaggatg antcctcang gctagaggag     1680
gaagaggaac agacttcaga acaggactca acctttcang gtcatacttt ggtagatgca     1740
aagcatgaag ttgagataac cagtnatggc atggaaacta ctttcattga ctctgtagag     1800
gattctgaat cagaggagga agaggaagga aagagctctg aaacaggaaa ggtaaagact     1860
acctccctga ctgagaaaaa agcctcacgt agacaaaaag aaattccctt tagttatttg     1920
gttggggact ctgggaagaa aaagttggtg aaacaccagg tggtgcacaa aacccaggag     1980
gaagaggaaa cagctgtgcc cacaagtcaa ggaactggca caacctgtct gaccttatgt     2040
ttggcctctc cctcaaagtc actagagatg agtcatgatg agcataaaaa gcattacat      2100
acaaatttga gtatttcaac aggagtcacc aaacttaaga aaacagaaga aaagaaacac     2160
aggactctgc acacagaaga actaacatcc aaagaagcag acttaacaga ggaaacagaa     2220
gaaaacttga gaagtagtgt gattaatagc atcagagaga taaaagagga gattggaaat     2280
ttgaaaagtt cccattcagg tgtcttggaa attgaaaatt cagtagatga tctgagtagc     2340
agaatggaca tccttgaaga aagaatagac agtctagaag atcaaattga agaattctct     2400
aaggatacaa tgcaaatgac caaacagata attagtaaag aagggccnag agatatagag     2460
gagagatcta gaagttgcaa cattcgtttg ataggaattc cagaaaagga gagttatgag     2520
aatagggcag aggacataat taaggaaata attgatgaaa actttgcaga actaaagaaa     2580
ggttcaagtc ttgagattgt cagtgcttgt cgagtaccta gtaaaattga tgaaaagaga     2640
ctgactccta gacacatctt ggtgaaattt tggaattcta gtgataaaga gaaaataata     2700
aggccttcta gagagagaag agaaattacc taccaaggaa caagaatcag gttgacagca     2760
gacttatcac tggacacact ggatgctaga agtaaatgga gcaatgtctt caaagttctg     2820
ctggaaaaag gctttaaccc tagaacccta tacccagcca aaatggcatt tgattttagg     2880
ggtaaaacaa aggtattcct tagtattgaa gaatttagag attatgtttt gcatatgccc     2940
accttgagag aattactggg gaataatata ccttagcacc ccaggtgac tacaaacaat      3000
atgctttcct cccccagcat gcacccaaaa accaacaagt aaaacgaaag tacacttcta     3060
cccagaagga tggacagcta ataccgtact tggggatgag gagcaaggaa tattacagat     3120
attaccc                                                                3127
```

```
<210> 684
<211> 803
<212> PRT
<213> Homo Sapiens

<400> 684
Met Asn Lys Phe Lys Val Leu Met Glu Ile Gln Asp Leu Met Phe Glu
1               5                   10                  15
Glu Met Arg Glu Thr Leu Lys Asn Asp Leu Lys Ala Val Leu Gly Gly
            20                  25                  30
Lys Ala Thr Ile Pro Glu Val Lys Asn Ser Glu Asn Ser Ser Ser Arg
        35                  40                  45
Gln Val Ser Ala Asn Asn Gln Phe Ser Ile Thr Lys Asn Arg Asp Gly
    50                  55                  60
Arg Glu Asn Arg Arg Arg Asn Ser Lys Ile Gly Asp Asp Asn Glu Asn
65                  70                  75                  80
Leu Thr Phe Lys Leu Glu Val Asn Glu Leu Ser Gly Lys Leu Asp Asn
                85                  90                  95
Thr Asn Glu Tyr Asn Ser Asn Asp Gly Lys Lys Leu Pro Gln Gly Glu
            100                 105                 110
Ser Arg Ser Tyr Glu Val Met Gly Ser Met Glu Glu Thr Leu Cys Asn
        115                 120                 125
Ile Asp Asp Arg Asp Gly Asn Arg Asn Val His Leu Glu Phe Thr Glu
    130                 135                 140
Arg Glu Ser Arg Lys Asp Gly Glu Asp Glu Phe Val Lys Glu Met Arg
145                 150                 155                 160
Glu Glu Arg Lys Phe Gln Lys Leu Lys Asn Lys Glu Glu Val Leu Lys
                165                 170                 175
Ala Ser Arg Glu Glu Lys Val Leu Met Asp Glu Gly Ala Val Leu Thr
            180                 185                 190
Leu Ala Ala Asp Leu Ser Ser Ala Thr Leu Asp Ile Ser Lys Gln Trp
        195                 200                 205
Ser Asn Val Phe Asn Ile Leu Arg Glu Asn Asp Phe Glu Pro Lys Phe
    210                 215                 220
Leu Cys Glu Val Lys Leu Ala Phe Lys Cys Asp Gly Glu Ile Lys Thr
225                 230                 235                 240
Phe Ser Asp Leu Gln Ser Leu Arg Lys Phe Ala Ser Gln Lys Ser Ser
                245                 250                 255
Met Xaa Xaa Leu Leu Xaa Asp Val Leu Pro Gln Lys Glu Glu Ile Asn
            260                 265                 270
Gln Gly Gly Arg Lys Tyr Gly Ile Gln Glu Lys Arg Asp Lys Thr Leu
        275                 280                 285
Ile Asp Ser Xaa His Arg Ala Gly Glu Ile Thr Ser Asp Gly Leu Ser
    290                 295                 300
Phe Leu Phe Leu Lys Glu Val Lys Val Ala Lys Pro Glu Glu Met Lys
305                 310                 315                 320
Asn Leu Glu Thr Gln Glu Glu Glu Phe Ser Glu Leu Glu Glu Leu Asp
                325                 330                 335
Glu Glu Ala Ser Gly Met Glu Asp Asp Glu Asp Thr Ser Gly Leu Glu
            340                 345                 350
Glu Glu Glu Glu Glu Glu Ala Ser Gly Leu Glu Glu Asp Xaa Ser Ser
        355                 360                 365
Xaa Leu Glu Glu Glu Glu Glu Gln Thr Ser Glu Gln Asp Ser Thr Phe
    370                 375                 380
Xaa Gly His Thr Leu Val Asp Ala Lys His Glu Val Glu Ile Thr Ser
```

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```
      385                   390                   395                   400
Xaa Gly Met Glu Thr Thr Phe Ile Asp Ser Val Glu Asp Ser Glu Ser
                    405                   410                   415
Glu Glu Glu Glu Glu Gly Lys Ser Ser Glu Thr Gly Lys Val Lys Thr
                420                   425                   430
Thr Ser Leu Thr Glu Lys Lys Ala Ser Arg Arg Gln Lys Glu Ile Pro
            435                   440                   445
Phe Ser Tyr Leu Val Gly Asp Ser Gly Lys Lys Lys Leu Val Lys His
        450                   455                   460
Gln Val Val His Lys Thr Gln Glu Glu Glu Glu Thr Ala Val Pro Thr
465                   470                   475                   480
Ser Gln Gly Thr Gly Thr Thr Cys Leu Thr Leu Cys Leu Ala Ser Pro
                485                   490                   495
Ser Lys Ser Leu Glu Met Ser His Asp Glu His Lys Lys His Ser His
            500                   505                   510
Thr Asn Leu Ser Ile Ser Thr Gly Val Thr Lys Leu Lys Lys Thr Glu
        515                   520                   525
Glu Lys Lys His Arg Thr Leu His Thr Glu Glu Leu Thr Ser Lys Glu
    530                   535.                  540
Ala Asp Leu Thr Glu Glu Thr Glu Glu Asn Leu Arg Ser Ser Val Ile
545                   550                   555                   560
Asn Ser Ile Arg Glu Ile Lys Glu Glu Ile Gly Asn Leu Lys Ser Ser
                565                   570                   575
His Ser Gly Val Leu Glu Ile Glu Asn Ser Val Asp Asp Leu Ser Ser
                580                   585                   590
Arg Met Asp Ile Leu Glu Glu Arg Ile Asp Ser Leu Glu Asp Gln Ile
            595                   600                   605
Glu Glu Phe Ser Lys Asp Thr Met Gln Met Thr Lys Gln Ile Ile Ser
        610                   615                   620
Lys Glu Gly Pro Arg Asp Ile Glu Glu Arg Ser Arg Ser Cys Asn Ile
625                   630                   635                   640
Arg Leu Ile Gly Ile Pro Glu Lys Glu Ser Tyr Glu Asn Arg Ala Glu
                645                   650                   655
Asp Ile Ile Lys Glu Ile Ile Asp Glu Asn Phe Ala Glu Leu Lys Lys
            660                   665                   670
Gly Ser Ser Leu Glu Ile Val Ser Ala Cys Arg Val Pro Ser Lys Ile
        675                   680                   685
Asp Glu Lys Arg Leu Thr Pro Arg His Ile Leu Val Lys Phe Trp Asn
    690                   695                   700
Ser Ser Asp Lys Glu Lys Ile Ile Arg Pro Ser Arg Glu Arg Arg Glu
705                   710                   715                   720
Ile Thr Tyr Gln Gly Thr Arg Ile Arg Leu Thr Ala Asp Leu Ser Leu
                725                   730                   735
Asp Thr Leu Asp Ala Arg Ser Lys Trp Ser Asn Val Phe Lys Val Leu
            740                   745                   750
Leu Glu Lys Gly Phe Asn Pro Arg Thr Leu Tyr Pro Ala Lys Met Ala
        755                   760                   765
Phe Asp Phe Arg Gly Lys Thr Lys Val Phe Leu Ser Ile Glu Glu Phe
    770                   775                   780
Arg Asp Tyr Val Leu His Met Pro Thr Leu Arg Glu Leu Leu Gly Asn
785                   790                   795                   800
Asn Ile Pro
```

      <210> 685

```
<211> 947
<212> PRT
<213> Homo Sapiens


<400> 685
Met Ser Leu Pro Ser Arg Gln Thr Ala Ile Ile Val Asn Pro Pro Pro
1               5                   10                  15
Pro Glu Tyr Ile Asn Thr Lys Lys Asn Gly Arg Leu Thr Asn Gln Leu
            20                  25                  30
Gln Tyr Leu Gln Lys Val Val Leu Lys Asp Leu Trp Lys His Ser Phe
        35                  40                  45
Ser Trp Pro Phe Gln Arg Pro Val Asp Ala Val Lys Leu Lys Leu Pro
    50                  55                  60
Asp Tyr Tyr Thr Ile Ile Lys Asn Pro Met Asp Leu Asn Thr Ile Lys
65                  70                  75                  80
Lys Arg Leu Glu Asn Lys Tyr Tyr Ala Lys Ala Ser Glu Cys Ile Glu
                85                  90                  95
Asp Phe Asn Thr Met Phe Ser Asn Cys Tyr Leu Tyr Asn Lys Pro Gly
            100                 105                 110
Asp Asp Ile Val Leu Met Ala Gln Ala Leu Glu Lys Leu Phe Met Gln
        115                 120                 125
Lys Leu Ser Gln Met Pro Gln Glu Glu Gln Val Val Gly Val Lys Glu
    130                 135                 140
Arg Ile Lys Lys Gly Thr Gln Gln Asn Ile Ala Val Ser Ser Ala Lys
145                 150                 155                 160
Glu Lys Ser Ser Pro Ser Ala Thr Glu Lys Val Phe Lys Gln Gln Glu
                165                 170                 175
Ile Pro Ser Val Phe Pro Lys Thr Ser Ile Ser Pro Leu Asn Val Val
            180                 185                 190
Gln Gly Ala Ser Val Asn Ser Ser Ser Gln Thr Ala Ala Gln Val Thr
        195                 200                 205
Lys Gly Val Lys Arg Lys Ala Asp Thr Thr Thr Pro Ala Thr Ser Ala
    210                 215                 220
Val Lys Ala Ser Ser Glu Phe Ser Pro Thr Phe Thr Glu Lys Ser Val
225                 230                 235                 240
Ala Leu Pro Pro Ile Lys Glu Asn Met Pro Lys Asn Val Leu Pro Asp
                245                 250                 255
Ser Gln Gln Gln Tyr Asn Val Val Glu Thr Val Lys Val Thr Glu Gln
            260                 265                 270
Leu Arg His Cys Ser Glu Ile Leu Lys Glu Met Leu Ala Lys Lys His
        275                 280                 285
Phe Ser Tyr Ala Trp Pro Phe Tyr Asn Pro Val Asp Val Asn Ala Leu
    290                 295                 300
Gly Leu His Asn Tyr Tyr Asp Val Val Lys Asn Pro Met Asp Leu Gly
305                 310                 315                 320
Thr Ile Lys Glu Lys Met Asp Asn Gln Glu Tyr Lys Asp Ala Tyr Ser
                325                 330                 335
Phe Ala Ala Asp Val Arg Leu Met Phe Met Asn Cys Tyr Lys Tyr Asn
            340                 345                 350
Pro Pro Asp His Glu Val Val Thr Met Ala Arg Met Leu Gln Asp Val
        355                 360                 365
Phe Glu Thr His Phe Ser Lys Ile Pro Ile Glu Pro Val Glu Ser Met
    370                 375                 380
Pro Leu Cys Tyr Ile Lys Thr Asp Ile Thr Glu Thr Thr Gly Arg Glu
385                 390                 395                 400
```

```
Asn Thr Asn Glu Ala Ser Ser Glu Gly Asn Ser Ser Asp Asp Ser Glu
            405                     410                 415
Asp Glu Arg Val Lys Arg Leu Ala Lys Leu Gln Glu Gln Leu Lys Ala
            420                     425                 430
Val His Gln Gln Leu Gln Val Leu Ser Gln Val Pro Phe Arg Lys Leu
            435                     440                 445
Asn Lys Lys Lys Glu Lys Ser Lys Lys Glu Lys Lys Lys Glu Lys Val
    450                 455                 460
Asn Asn Ser Asn Glu Asn Pro Arg Lys Met Cys Glu Gln Met Arg Leu
465                 470                 475                 480
Lys Glu Lys Ser Lys Arg Asn Gln Pro Lys Lys Arg Lys Gln Gln Phe
                485                 490                 495
Ile Gly Leu Lys Ser Glu Asp Glu Asp Asn Ala Lys Pro Met Asn Tyr
            500                 505                 510
Asp Glu Lys Arg Gln Leu Ser Leu Asn Ile Asn Lys Leu Pro Gly Asp
            515                 520                 525
Lys Leu Gly Arg Val Val His Ile Ile Gln Ser Arg Glu Pro Ser Leu
    530                 535                 540
Ser Asn Ser Asn Pro Asp Glu Ile Glu Ile Asp Phe Glu Thr Leu Lys
545                 550                 555                 560
Ala Ser Thr Leu Arg Glu Leu Glu Lys Tyr Val Ser Ala Cys Leu Arg
                565                 570                 575
Lys Arg Pro Leu Lys Pro Pro Ala Lys Lys Ile Met Met Ser Lys Glu
            580                 585                 590
Glu Leu His Ser Gln Lys Lys Gln Glu Leu Glu Lys Arg Leu Leu Asp
            595                 600                 605
Val Asn Asn Gln Leu Asn Ser Arg Lys Arg Gln Thr Lys Ser Asp Lys
    610                 615                 620
Thr Gln Pro Ser Lys Ala Val Glu Asn Val Ser Arg Leu Ser Glu Ser
625                 630                 635                 640
Ser Ser Ser Ser Ser Ser Ser Ser Glu Ser Glu Ser Ser Ser Ser Asp
                645                 650                 655
Leu Ser Ser Ser Asp Ser Ser Asp Ser Glu Ser Glu Met Phe Pro Lys
            660                 665                 670
Phe Thr Glu Val Lys Pro Asn Asp Ser Pro Ser Lys Glu His Val Lys
            675                 680                 685
Lys Met Lys Asn Glu Cys Ile Leu Pro Glu Gly Arg Thr Gly Val Thr
    690                 695                 700
Gln Ile Gly Tyr Cys Val Gln Asp Thr Thr Ser Ala Asn Thr Thr Leu
705                 710                 715                 720
Val His Gln Thr Thr Pro Ser His Val Met Pro Pro Asn His His Gln
                725                 730                 735
Leu Ala Phe Asn Tyr Gln Glu Leu Glu His Leu Gln Thr Val Lys Asn
            740                 745                 750
Ile Ser Pro Leu Gln Ile Leu Pro Pro Ser Gly Asp Ser Glu Gln Leu
            755                 760                 765
Ser Asn Gly Ile Thr Val Met His Pro Ser Gly Asp Ser Asp Thr Thr
    770                 775                 780
Met Leu Glu Ser Glu Cys Gln Ala Pro Val Gln Lys Asp Ile Lys Ile
785                 790                 795                 800
Lys Asn Ala Asp Ser Trp Lys Ser Leu Gly Lys Pro Val Lys Pro Ser
                805                 810                 815
Gly Val Met Lys Ser Ser Asp Glu Leu Phe Asn Gln Phe Arg Lys Ala
            820                 825                 830
Ala Ile Glu Lys Glu Val Lys Ala Arg Thr Gln Glu Leu Ile Arg Lys
```

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```
          835                    840                    845
His Leu Glu Gln Asn Thr Lys Glu Leu Lys Ala Ser Gln Glu Asn Gln
    850                    855                    860
Arg Asp Leu Gly Asn Gly Leu Thr Val Glu Ser Phe Ser Asn Lys Ile
865                    870                    875                    880
Gln Asn Lys Cys Ser Gly Glu Glu Gln Lys Glu His Pro Gln Ser Ser
                885                    890                    895
Glu Ala Gln Asp Lys Ser Lys Leu Trp Leu Leu Lys Asp Arg Asp Leu
                900                    905                    910
Ala Arg Pro Lys Glu Gln Glu Arg Arg Arg Arg Glu Ala Met Val Gly
        915                    920                    925
Thr Ile Asp Met Thr Leu Gln Ser Asp Ile Met Thr Met Phe Glu Asn
    930                    935                    940
Asn Phe Asp
945
```

```
        <210> 686
        <211> 3106
        <212> DNA
        <213> Homo Sapiens

        <400> 686
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atttagcatg gacatgtact tgtagacagg attcaaagca gttaagaatg tctctgccaa     120
gtcgacaaac agctattatt gttaaccctc ctccaccaga atatataaat actaagaaaa     180
atgggcgatt gacaaatcaa cttcagtatc tacaaaaagt tgtcctaaag gatttatgga     240
agcatagttt ttcatggccc tttcaacgtc ctgtggatgc tgtgaaacta aagttgcctg     300
attattatac cattataaaa aacccaatgg atttaaatac aattaagaag cgcttggaga     360
ataaatatta tgcgaaggct tcagaatgta tagaagactt caatacaatg ttctcaaatt     420
gttatttata taacaagcct ggagatgaca ttgttcttat ggcacaagct ctagagaagc     480
tgtttatgca gaaattatct cagatgccac aagaagagca agttgtgggt gttaaggaaa     540
gaatcaagaa aggcactcaa cagaatatag ctgtttcttc tgctaaagaa aaatcatcac     600
ccagcgcaac agaaaaagta tttaagcagc aagaaattcc ttctgtattt cctaagacat     660
ctatttctcc cttgaacgtg gtacagggag cttcagtcaa ctccagttca caaactgcgg     720
cccaagttac aaaaggtgtg aagaggaaag cagatacaac aactcctgca acttcagcag     780
ttaaagcaag tagtgaattt tctccaacat tcacagaaaa atcagtggca ctgccaccta     840
taaaagaaaa tatgccaaag aatgttttgc cagattctca gcaacaatat aatgttgtgg     900
agactgttaa agtaactgaa caattaaggc actgtagtga gattcttaaa gaaatgcttg     960
caaagaaaca tttttcatat gcatggccct tttataatcc tgttgacgtt aatgctttgg    1020
gactccataa ctactatgac gttgtcaaaa atccgatgga tcttggaact attaaggaga    1080
aaatggataa ccaagaatat aaggatgcat actcatttgc ggcagatgtt agattaatgt    1140
tcatgaattg ctacaagtac aatcctccag atcacgaagt tgtgacaatg caagaatgc    1200
ttcaggatgt tttcgaaacg cattttttcaa agatcccgat tgaacctgtt gagagtatgc    1260
ctttatgtta catcaaaaca gatatcacag aaaccactgg tagagagaac actaatgaag    1320
cctcctctga agggaactct tctgatgatt ctgaagatga gcgagttaag cgtcttgcaa    1380
agcttcagga gcagcttaaa gctgtacatc aacagctcca ggttttgtcc caagtacctt    1440
tccgtaagct aaataaaaag aaagagaagt ctaaaaagga aagaaaaaa gaaaggtta    1500
ataacagcaa tgaaaatcca agaaaaatgt gtgagcaaat gaggctaaag gaaaagtcca    1560
agagaaatca gccaaagaaa aggaaacaac agttcattgg tctaaaatct gaagatgaag    1620
ataatgctaa acctatgaac tatgatgaga aaaggcagtt aagtctgaat ataaacaaac    1680
tccctggaga taaacttggg cgagtagttc acataataca atcaagagag ccttctctga    1740
gcaattccaa tcctgatgag atagagatag actttgaaac actgaaagca tcaacactaa    1800
gagaattaga aaaatatgtt tcggcatgtc taagaaagag accattaaaa cctcctgcta    1860
agaaaataat gatgtccaaa gaagaacttc actcacagaa aaaacaggaa ttggaaaagc    1920
ggttactgga tgttaataat cagttaaatt ctagaaaacg tcaaacaaaa tctgataaaa    1980
```

●

●

```
cgcaaccatc caaagctgtt gaaaatgttt cccgactgag tgagagcagc agcagcagca   2040
gcagctcatc agagtctgaa agtagcagca gtgacttaag ctcttcagac agcagtgatt   2100
ctgaatcaga aatgttccct aagtttacag aagtaaaacc aaatgattct ccttctaaag   2160
agcatgtaaa gaaaatgaag aatgaatgca tactgcctga aggaagaaca ggcgtcacac   2220
agataggata ttgtgtgcaa gacacaacct ctgccaatac tacccttgtt catcagacca   2280
caccttcaca tgtaatgcca ccaaatcacc accaattagc atttaattat caagaattag   2340
aacatttaca gactgtgaaa aacatttcac ctttacaaat tctgcctccc tcaggtgatt   2400
ctgaacagct ctcaaatggc ataactgtga tgcatccatc tggtgatagt gacacaacga   2460
tgttagaatc tgaatgtcaa gctcctgtac agaaggatat aaagattaag aatgcagatt   2520
catggaaaag tttaggcaaa ccagtgaaac catcaggtgt aatgaaatcc tcagatgagc   2580
tcttcaacca atttagaaaa gcagccatag aaaaggaagt aaaaagctcgg acacaggaac   2640
tcatacggaa gcatttggaa caaaatacaa aggaactaaa agcatctcaa gaaaatcaga   2700
gggatcttgg gaatggattg actgtagaat ctttttcaaa taaaatacaa aacaagtgct   2760
ctggagaaga gcagaaagaa catccgcagt catcagaagc tcaagataaa tccaaactct   2820
ggcttctcaa agaccgtgat ttagccaggc cgaaagaaca agagaggagg aggagagaag   2880
ccatggtggg taccattgat atgacccttc aaagtgacat tatgacaatg tttgaaaaca   2940
actttgatta aaactcagtt tttaaattaa ccatccactt aaaatgaatg gtaaaagatc   3000
aaaatgcata tggtaaaatg attgctttca gataacaaga taccaatctt atattgtatt   3060
ttgactgctc taaaatgatt aaacagtttt cacttacaaa aaaaaa   3106
```

```
<210> 687
<211> 1759
<212> DNA
<213> Homo Sapiens

<400> 687
gtcactccgc aattagacag ctaagagatc tgtgttactt ccctcacata tataaataat    60
tttaaataaa aatcatggcg tgaataattt cttttcctcta ccgatttgaa gctatccatt   120
tggaagacca ctctgaagag atgaaataag tcttctgcca aagattactt attaatttac   180
aaggaaaagg ggaagttttg ttcctctccg tgaatttgat tgaaaatcga gggctttctc   240
gaatagtttt ggcatccagg gtcatttttc attaaaaaga gaaaagtcat gtcaaatatg   300
aatttccgca gattattcag cactagaccc tgggagattc tgtaaagagg ggttttgtta   360
tactcaactt ttccgggtaa aacaaacaca aatactcctc ctccaagggg cggggggcggt   420
gcctaggtga tgcaccaatc acagcgcgcc ctaccctata taagccccga ggccgcccgg   480
gtgtttcatg cttttcgctg gttattacat cttgcgtttc tctgttgtta tgtctgaaac   540
cgtgcctgca gcttctgcca gtgctggtct agccgctatg gagaaacttc caaccaagaa   600
gcgagggagg aagccggctg cttgataag tgcaagtcgc aaagtgccga acctctctgt   660
gtccaagttg atcaccgagg cccttcagt gtcacaggaa cgagtaggta tgtctttggt   720
tgcgctcaag aaggcattgg ccgctgctgg ctacgacgta gagaagaata acagccgcat   780
caaactgtcc ctcaagagct tagtgaacaa gggaatcctg gtgcaaacca ggggtactgg   840
tgcttccggt tcctttaagc ttagtaagaa ggtgattcct aaatctacac gaagcaaggc   900
taaaaagtca gtttctgcca agaccaagaa gctggtttta tccagggact ccaagtcacc   960
aaagactgct aaaaccaata agagagccaa gaagccgaga gcgacaactc ctaaaactgt   1020
taggagcggg agaaaggcta aaggagccaa gggtaagcaa cagcagaaga gcccagtgaa   1080
ggcaagggct tcgaagtcaa aattgaccca acatcatgaa gttaatgtta gaaaggccac   1140
atctaagaag taaagagctt tccgggaggc caatttggaa agaacccaaa ggctctttta   1200
agagccaccc acattatttt aagatggcgt aacactggaa acaagtttct gtgacagtta   1260
tctataggtt taagttgtga tgcagctgag ttgaaaaggc ttgagattgg agaattaatt   1320
caggccaggc ttcaagacca tcctgggcaa catagccaga ctaccatcta taccaggggt   1380
cctcattccc ccggccaccg accggtaacc ggtccctgtc catggcacgt tatgaattga   1440
gccgcacagc tgaggggtga gcgaacatta accaactgag ctccaccgcc tgtcaggtta   1500
gctgcagcat tagatagatt ctcataagct caaactgtat tgtgaatggc acatgcaagg   1560
gatctaggtt tcaggctcct tgtgacaatc taatgcctga tgatctgagg ttggagcagt   1620
tttagtccgg aaatcattgc tcccagcccc tgcaccccct ggtccgtggt ataattgtct   1680
tacacaaacg gtctcttgtg tcaaaaaggt tggagactac tggttttttac aaaaaagtaa   1740
```

attagtcaag catggttgg   1759

          <210> 688
          <211> 207
          <212> PRT
          <213> Homo Sapiens

          <400> 688

```
Met Ser Glu Thr Val Pro Ala Ala Ser Ala Ser Ala Gly Leu Ala Ala
1               5                   10                  15
Met Glu Lys Leu Pro Thr Lys Lys Arg Gly Arg Lys Pro Ala Gly Leu
            20                  25                  30
Ile Ser Ala Ser Arg Lys Val Pro Asn Leu Ser Val Ser Lys Leu Ile
        35                  40                  45
Thr Glu Ala Leu Ser Val Ser Gln Glu Arg Val Gly Met Ser Leu Val
    50                  55                  60
Ala Leu Lys Lys Ala Leu Ala Ala Ala Gly Tyr Asp Val Glu Lys Asn
65                  70                  75                  80
Asn Ser Arg Ile Lys Leu Ser Leu Lys Ser Leu Val Asn Lys Gly Ile
                85                  90                  95
Leu Val Gln Thr Arg Gly Thr Gly Ala Ser Gly Ser Phe Lys Leu Ser
            100                 105                 110
Lys Lys Val Ile Pro Lys Ser Thr Arg Ser Lys Ala Lys Lys Ser Val
            115                 120                 125
Ser Ala Lys Thr Lys Lys Leu Val Leu Ser Arg Asp Ser Lys Ser Pro
130                 135                 140
Lys Thr Ala Lys Thr Asn Lys Arg Ala Lys Lys Pro Arg Ala Thr Thr
145                 150                 155                 160
Pro Lys Thr Val Arg Ser Gly Arg Lys Ala Lys Gly Ala Lys Gly Lys
                165                 170                 175
Gln Gln Gln Lys Ser Pro Val Lys Ala Arg Ala Ser Lys Ser Lys Leu
                180                 185                 190
Thr Gln His His Glu Val Asn Val Arg Lys Ala Thr Ser Lys Lys
        195                 200                 205
```

          <210> 689
          <211> 1464
          <212> DNA
          <213> Homo Sapiens

          <400> 689

```
agtaccgggt acgcaggggt gcctcaacca cactccgtcc acggactctc cgttatttta    60
ggaggtccct ggccaaagat ttatttctct tgacaaccaa gggcctccgt ctggatttcc   120
aaggaagaat ttcctctgaa gcaccggaac ttgctactac cagcaccatg ccctaccaat   180
atccagcact gaccccggag cagaagaagg agctgtctga catcgctcac cgcatcgtgg   240
cacctggcaa gggcatcctg gctgcagatg agtccactgg gagcattgcc aagcggctgc   300
agtccattgg caccgagaac accgaggaga accggcgctt ctaccgccag ctgctgctga   360
cagctgacga ccgcgtgaac ccctgcattg ggggtgtcat cctcttccat gagacactct   420
accagaaggc ggatgatggg cgtcccttcc cccaagttat caaatccaag ggcggtgttg   480
tgggcatcaa ggtagacaag ggcgtggtcc ccctggcagg acaaatggc gagactacca   540
cccaagggtt ggatgggctg tctgagcgct gtgcccagta caagaaggac ggagctgact   600
tcgccaagtg gcgttgtgtg ctgaagattg ggaacacac ccctcagcc ctcgccatca   660
tggaaaatgc caatgttctg gcccgttatg ccagtatctg ccagcagaat ggcattgtgc   720
ccatcgtgga gcctgagatc ctccctgatg gggaccatga cttgaagcgc tgccagtatg   780
tgaccgagaa ggtgctggct gctgtctaca aggctctgag tgaccaccac atctacctgg   840
```

```
aaggcacctt gctgaagccc aacatggtca ccccaggcca tgcttgcact cagaagtttt    900
ctcatgagga gattgccatg gcgaccgtca cagcgctgcg ccgcacagtg ccccccgctg    960
tcactgggat caccttcctg tctggaggcc agagtgagga ggaggcgtcc atcaacctca   1020
atgccattaa caagtgcccc ctgctgaagc cctgggccct gaccttctcc tacggccgag   1080
ccctgcaggc ctctgccctg aaggcctggg gcgggaagaa ggagaacctg aaggctgcgc   1140
aggaggagta tgtcaagcga gccctggcca acagccttgc ctgtcaagga aagtacactc   1200
cgagcggtca ggctggggct gctgccagcg agtccctctt cgtctctaac cacgcctatt   1260
aagcggaggt gttcccaggc tgcccccaac aactccaggc cctgccccct cccactcttg   1320
aagaggaggc cgcctcctcg gggctccagg ctggcttgcc cgcgctcttt cttccctcgt   1380
gacagtggtg tgtggtgtcg tctgtgaatg ctaagtccat cacccttccc ggcacactgc   1440
caaataaaca gctatttaag gggg                                          1464
```

```
        <210> 690
        <211> 363
        <212> PRT
        <213> Homo Sapiens


        <400> 690
Pro Tyr Gln Tyr Pro Ala Leu Thr Pro Glu Gln Lys Lys Glu Leu Ser
1               5                   10                  15
Asp Ile Ala His Arg Ile Val Ala Pro Gly Lys Gly Ile Leu Ala Ala
            20                  25                  30
Asp Glu Ser Thr Gly Ser Ile Ala Lys Arg Leu Gln Ser Ile Gly Thr
        35                  40                  45
Glu Asn Thr Glu Glu Asn Arg Arg Phe Tyr Arg Gln Leu Leu Leu Thr
    50                  55                  60
Ala Asp Asp Arg Val Asn Pro Cys Ile Gly Gly Val Ile Leu Phe His
65                  70                  75·                 80
Glu Thr Leu Tyr Gln Lys Ala Asp Asp Gly Arg Pro Phe Pro Gln Val
                85                  90                  95
Ile Lys Ser Lys Gly Gly Val Val Gly Ile Lys Val Asp Lys Gly Val
            100                 105                 110
Val Pro Leu Ala Gly Thr Asn Gly Glu Thr Thr Thr Gln Gly Leu Asp
        115                 120                 125
Gly Leu Ser Glu Arg Cys Ala Gln Tyr Lys Lys Asp Gly Ala Asp Phe
    130                 135                 140
Ala Lys Trp Arg Cys Val Leu Lys Ile Gly Glu His Thr Pro Ser Ala
145                 150                 155                 160
Leu Ala Ile Met Glu Asn Ala Asn Val Leu Ala Arg Tyr Ala Ser Ile
                165                 170                 175
Cys Gln Gln Asn Gly Ile Val Pro Ile Val Glu Pro Glu Ile Leu Pro
            180                 185                 190
Asp Gly Asp His Asp Leu Lys Arg Cys Gln Tyr Val Thr Glu Lys Val
        195                 200                 205
Leu Ala Ala Val Tyr Lys Ala Leu Ser Asp His His Ile Tyr Leu Glu
    210                 215                 220
Gly Thr Leu Leu Lys Pro Asn Met Val Thr Pro Gly His Ala Cys Thr
225                 230                 235                 240
Gln Lys Phe Ser His Glu Glu Ile Ala Met Ala Thr Val Thr Ala Leu
                245                 250                 255
Arg Arg Thr Val Pro Pro Ala Val Thr Gly Ile Thr Phe Leu Ser Gly
            260                 265                 270
Gly Gln Ser Glu Glu Glu Ala Ser Ile Asn Leu Asn Ala Ile Asn Lys
        275                 280                 285
Cys Pro Leu Leu Lys Pro Trp Ala Leu Thr Phe Ser Tyr Gly Arg Ala
```

```
         290                    295                    300
Leu Gln Ala Ser Ala Leu Lys Ala Trp Gly Gly Lys Lys Glu Asn Leu
305                    310                    315                    320
Lys Ala Ala Gln Glu Glu Tyr Val Lys Arg Ala Leu Ala Asn Ser Leu
                325                    330                    335
Ala Cys Gln Gly Lys Tyr Thr Pro Ser Gly Gln Ala Gly Ala Ala Ala
                340                    345                    350
Ser Glu Ser Leu Phe Val Ser Asn His Ala Tyr
            355                    360
```

```
     <210> 691
     <211> 1216
     <212> DNA
     <213> Homo Sapiens

     <400> 691
     atgctcctcg atgtggagcc gctggagcct acacttagca acatcatcga gcagcgcagc   60
     ctgaagtgga tcttcgtcgg ggggcaaggg ggtgtgggca agaccacctg cagctgcagc  120
     ctggcagtcc agctctccaa ggggcgtgag agtgttctga tcatctccac agacccagca  180
     cacaacatct cagatgcttt tgaccagaag ttctcaaagg tgcctaccaa ggtcaaaggc  240
     tatgacaacc tctttgctat ggagattgac cccagcctgg gcgtggcgga cgtgcctgac  300
     gagttcttcg aggaggacaa catgctgagc atgggcaaga agatgatgca ggaggccatg  360
     agcgcatttc ccggcatcga tgaggccatg agctatgccg aggtcatgag gctggtgaag  420
     ggcatgaact tctcggtggt ggtatttgac acggcaccca cgggccacac cctgaggctg  480
     ctcaacttcc ccaccatcgt ggagcggggc ctgggccggc ttatgcagat caagaaccag  540
     atcagccctt tcatctcaca gatgtgcaac atgctgggcc tgggggacat gaacgcagac  600
     cagctggcct ccaagctgga ggagacgctg cccgtcatcc gctcagtcag cgaacagttc  660
     aaggaccctg agcagacaac tttcatctgc gtatgcattg ctgagttcct gtccctgtat  720
     gagacagaga ggctgatcca ggagctggcc aagtgcaaga ttgacacaca caatataatt  780
     gtcaaccagc tcgtcttccc cgaccccgag aagccctgca agatgtgtga ggcccgtcac  840
     aagatccagg ccaagtatct ggaccagatg gaggacctgt atgaagactt ccacatcgtg  900
     aagctgccgc tgttacccca tgaggtgcgg ggggcagaca aggtcaacac cttctcggcc  960
     ctcctcctgg agccctacaa gcccccagt gcccagtagc acagctgcca gccccaaccg 1020
     ctgccatttc acactcaccc tccaccctcc cacccctc ggggcagagt ttgcacaaag 1080
     tcccccccat aatacagggg gagccacttg ggcaggaggc agggaggggt ccattccccc 1140
     tggtggggct ggtggggagc tgtagttgcc ccctacctct cccacctctt gctcttcaat 1200
     aaatgatctt aaactg                                               1216

     <210> 692
     <211> 1958
     <212> DNA
     <213> Homo Sapiens

     <400> 692
     gctgctgcgc ccgcggctcc ccagtgcccc gagtgccccg cgggccccgc gagcgggagt   60
     gggacccagc cctaggcaga acccaggcgc cgcgcccggg acgcccgcgg agagagccac  120
     tcccgcccac gtcccatttc gcccctcgcg tccggagtcc ccgtggccag atctaaccat  180
     gagctaccct ggctatcccc cgcccccagg tggctaccca ccagctgcac caggtggtgg  240
     tccctgggga ggtgctgcct accctcctcc gcccagcatg ccccccatcg ggctggataa  300
     cgtggccacc tatgcggggc agttcaacca ggactatctc tcgggaatgg cggccaacat  360
     gtctgggaca tttggaggag ccaacatgcc caacctgtac cctgggccc ctggggctgg  420
     ctacccacca gtgcccctg gcggctttgg gcagcccccc tctgcccagc agcctgttcc  480
     tccctatggg atgtatccac ccccaggagg aaacccaccc tccaggatgc cctcatatcc  540
     gccataccca ggggcccctg tgccgggcca gcccatgcca ccccccggac agcagccccc  600
     aggggcctac cctgggcagc caccagtgac ctaccctggt cagcctccag tgccactccc  660
```

```
tgggcagcag cagccagtgc cgagctaccc aggatacccg gggtctggga ctgtcacccc    720
cgctgtgccc ccaacccagt ttggaagccg aggcaccatc actgatgctc ccggctttga    780
ccccctgcga gatgccgagg tcctgcggaa ggccatgaaa ggcttcggga cggatgagca    840
ggccatcatt gactgcctgg ggagtcgctc caacaagcag cggcagcaga tcctactttc    900
cttcaagacg gcttacggca aggatttgat caaagatctg aaatctgaac tgtcaggaaa    960
ctttgagaag acaatcttgg ctctgatgaa gaccccagtc ctctttgaca tttatgagat   1020
aaaggaagcc atcaaggggg ttggcactga tgaagcctgc ctgattgaga tcctcgcttc   1080
ccgcagcaat gagcacatcc gagaattaaa cagagcctac aaagcagaat tcaaaaagac   1140
cctggaagag gccattcgaa gcgacacatc agggcacttc cagcggctcc tcatctctct   1200
ctctcaggga aaccgtgatg aaagcacaaa cgtggacatg tcactcgccc agagagatgc   1260
ccaggagctg tatgcggccg gggagaaccg cctgggaaca gacgagtcca agttcaatgc   1320
ggttctgtgc tcccggagcc gggcccacct ggtagcagtt ttcaatgagt accagagaat   1380
gacaggccgg gacattgaga gagcatctg ccgggagatg tccggggacc tggaggaggg   1440
catgctggcc gtggtgaaat gtctcaagaa taccccagcc ttctttgcgg agaggctcaa   1500
caaggccatg aggggggcag gaacaaagga ccggaccctg attcgcatca tggtgtctcg   1560
cagcgagacc gacctcctgg acatcagatc agagtataag cggatgtacg gcaagtcgct   1620
gtaccacgac atctcgggag atacttcagg ggattaccgg aagattctgc tgaagatctg   1680
tggtggcaat gactgaacag tgactggtgg ctcacttctg cccacctgcc ggcaacacca   1740
gtgccaggaa aaggccaaaa gaatgtctgt ttctaacaaa tccacaaata gccccgagat   1800
tcaccgtcct agagcttagg cctgtcttcc acccctcctg acccgtatag tgtgccacag   1860
gacctgggtc ggtctagaac tctctcagga tgccttttct accccatccc tcacagcctc   1920
ttgctgctaa aatagatgtt tcattttct gaaaaaaa                             1958
```

```
<210> 693
<211> 505
<212> PRT
<213> Homo Sapiens
```

```
<400> 693
Met Ser Tyr Pro Gly Tyr Pro Pro Pro Gly Gly Tyr Pro Pro Ala
1               5               10              15
Ala Pro Gly Gly Gly Pro Trp Gly Gly Ala Ala Tyr Pro Pro Pro
            20              25              30
Ser Met Pro Pro Ile Gly Leu Asp Asn Val Ala Thr Tyr Ala Gly Gln
        35              40              45
Phe Asn Gln Asp Tyr Leu Ser Gly Met Ala Ala Asn Met Ser Gly Thr
    50              55              60
Phe Gly Gly Ala Asn Met Pro Asn Leu Tyr Pro Gly Ala Pro Gly Ala
65              70              75              80
Gly Tyr Pro Pro Val Pro Pro Gly Gly Phe Gly Gln Pro Pro Ser Ala
            85              90              95
Gln Gln Pro Val Pro Pro Tyr Gly Met Tyr Pro Pro Pro Gly Gly Asn
            100             105             110
Pro Pro Ser Arg Met Pro Ser Tyr Pro Pro Tyr Pro Gly Ala Pro Val
        115             120             125
Pro Gly Gln Pro Met Pro Pro Pro Gly Gln Gln Pro Pro Gly Ala Tyr
    130             135             140
Pro Gly Gln Pro Pro Val Thr Tyr Pro Gly Gln Pro Pro Val Pro Leu
145             150             155             160
Pro Gly Gln Gln Gln Pro Val Pro Ser Tyr Pro Gly Tyr Pro Gly Ser
            165             170             175
Gly Thr Val Thr Pro Ala Val Pro Pro Thr Gln Phe Gly Ser Arg Gly
            180             185             190
Thr Ile Thr Asp Ala Pro Gly Phe Asp Pro Leu Arg Asp Ala Glu Val
        195             200             205
```

```
Leu Arg Lys Ala Met Lys Gly Phe Gly Thr Asp Glu Gln Ala Ile Ile
    210                 215             220
Asp Cys Leu Gly Ser Arg Ser Asn Lys Gln Arg Gln Gln Ile Leu Leu
225                 230             235                 240
Ser Phe Lys Thr Ala Tyr Gly Lys Asp Leu Ile Lys Asp Leu Lys Ser
            245             250                 255
Glu Leu Ser Gly Asn Phe Glu Lys Thr Ile Leu Ala Leu Met Lys Thr
            260             265                 270
Pro Val Leu Phe Asp Ile Tyr Glu Ile Lys Glu Ala Ile Lys Gly Val
        275             280                 285
Gly Thr Asp Glu Ala Cys Leu Ile Glu Ile Leu Ala Ser Arg Ser Asn
    290             295                 300
Glu His Ile Arg Glu Leu Asn Arg Ala Tyr Lys Ala Glu Phe Lys Lys
305             310                 315                 320
Thr Leu Glu Glu Ala Ile Arg Ser Asp Thr Ser Gly His Phe Gln Arg
            325             330                 335
Leu Leu Ile Ser Leu Ser Gln Gly Asn Arg Asp Glu Ser Thr Asn Val
            340             345                 350
Asp Met Ser Leu Ala Gln Arg Asp Ala Gln Glu Leu Tyr Ala Ala Gly
        355             360                 365
Glu Asn Arg Leu Gly Thr Asp Glu Ser Lys Phe Asn Ala Val Leu Cys
    370             375                 380
Ser Arg Ser Arg Ala His Leu Val Ala Val Phe Asn Glu Tyr Gln Arg
385             390                 395                 400
Met Thr Gly Arg Asp Ile Glu Lys Ser Ile Cys Arg Glu Met Ser Gly
            405             410                 415
Asp Leu Glu Glu Gly Met Leu Ala Val Val Lys Cys Leu Lys Asn Thr
            420             425                 430
Pro Ala Phe Phe Ala Glu Arg Leu Asn Lys Ala Met Arg Gly Ala Gly
        435             440                 445
Thr Lys Asp Arg Thr Leu Ile Arg Ile Met Val Ser Arg Ser Glu Thr
    450             455                 460
Asp Leu Leu Asp Ile Arg Ser Glu Tyr Lys Arg Met Tyr Gly Lys Ser
465             470                 475                 480
Leu Tyr His Asp Ile Ser Gly Asp Thr Ser Gly Asp Tyr Arg Lys Ile
            485             490                 495
Leu Leu Lys Ile Cys Gly Gly Asn Asp
            500             505
```

```
        <210> 694
        <211> 1141
        <212> DNA
        <213> Homo Sapiens

        <400> 694
cgcagcttgc aaatggcgtc tccctcgctg gagcggccag aaaaaggcgc tggaaaaagt    60
gaatttcgta accagaagcc gaagccggag aaccaagatg aatcagaact ccttacggtt   120
cctgatggtt ggaaggaacc agcttttttcc aaagaggaca atcccagagg acttttggag   180
gagagcagtt tcgcaacttt gttcccaaaa tacagggaag cttacttgaa agagtgttgg   240
ccattggtgc agaaagcctt aaatgaacat catgttaatg caaccctgga cctgatcgaa   300
ggcagcatga ctgtttgtac tacaaagaag acttttgatc catatatcat cattagggcc   360
agagatctga taaaactgtt agcaaggagt gtttcatttg aacaggcagt acgaattctt   420
caggatgatg ttgcatgtga catcattaaa ataggttctt tagtaaggaa taaagagaga   480
tttgtaaaac gaagacaacg gcttattggt cccaaaggat ctacattgaa ggcattggaa   540
ctcttaacta attgttacat tatggttcag ggaaacacag tttcagccat tggacctttt   600
```

```
agtggcttaa aagaggttag aaaagtagtc cttgatacta tgaagaatat tcatccaatt    660
tataacatta aaagcttaat gattaagaga gagttggcaa aagattctga attacgatca    720
caaagttggg agagattttt gccacagttc aaacacaaaa atgtgaataa acgcaaggaa    780
ccaaagaaaa aaactgttaa gaaagatata cgccattccc accaccacaa ccagaaagtc    840
agatcgataa agaattggct agtggtgaat acttttttgaa ggcaaatcag aagaagcggc    900
agaaaatgaa gcaataaagg ctaaacaagc agaagccatc agtaagagac aagaggaaag    960
aaacaaagca tttattccac ctaaggaaaa accaattgtg aaacctaagg aagcttctac   1020
tgaaactaaa attgatgtgg ccagcatcaa ggaaaaggtt aagaaagcaa agaataagaa   1080
actgggagct cttacagctg aagaaattgc acttaagatg gaggcagatg aaaaaaaaaa   1140
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        <210> 695
        <211> 288
        <212> PRT
        <213> Homo Sapiens

        <400> 695
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Glu Phe Arg Asn Gln Lys Pro Lys Pro Glu Asn Gln Asp Glu Ser Glu
            20                  25                  30
Leu Leu Thr Val Pro Asp Gly Trp Lys Glu Pro Ala Phe Ser Lys Glu
            35                  40                  45
Asp Asn Pro Arg Gly Leu Leu Glu Glu Ser Ser Phe Ala Thr Leu Phe
        50                  55                  60
Pro Lys Tyr Arg Glu Ala Tyr Leu Lys Glu Cys Trp Pro Leu Val Gln
65                  70                  75                  80
Lys Ala Leu Asn Glu His His Val Asn Ala Thr Leu Asp Leu Ile Glu
                85                  90                  95
Gly Ser Met Thr Val Cys Thr Thr Lys Lys Thr Phe Asp Pro Tyr Ile
            100                 105                 110
Ile Ile Arg Ala Arg Asp Leu Ile Lys Leu Leu Ala Arg Ser Val Ser
            115                 120                 125
Phe Glu Gln Ala Val Arg Ile Leu Gln Asp Asp Val Ala Cys Asp Ile
            130                 135                 140
Ile Lys Ile Gly Ser Leu Val Arg Asn Lys Glu Arg Phe Val Lys Arg
145                 150                 155                 160
Arg Gln Arg Leu Ile Gly Pro Lys Gly Ser Thr Leu Lys Ala Leu Glu
                165                 170                 175
Leu Leu Thr Asn Cys Tyr Ile Met Val Gln Gly Asn Thr Val Ser Ala
                180                 185                 190
Ile Gly Pro Phe Ser Gly Leu Lys Glu Val Arg Lys Val Val Leu Asp
            195                 200                 205
Thr Met Lys Asn Ile His Pro Ile Tyr Asn Ile Lys Ser Leu Met Ile
210                 215                 220
Lys Arg Glu Leu Ala Lys Asp Ser Glu Leu Arg Ser Gln Ser Trp Glu
225                 230                 235                 240
Arg Phe Leu Pro Gln Phe Lys His Lys Asn Val Asn Lys Arg Lys Glu
                245                 250                 255
Pro Lys Lys Lys Thr Val Lys Lys Asp Ile Arg His Ser His His His
                260                 265                 270
Asn Gln Lys Val Arg Ser Ile Lys Asn Trp Leu Val Val Asn Thr Phe
275                 280                 285

        <210> 696
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        <211> 1008
        <212> DNA
        <213> Homo Sapiens

        <400> 696
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aacgtggcag aggaaaagcc caagttaaag caacaaatga atccgaagac gaaatcccac     180
agctggtacc aataggaaag aagactccag ctaatgaaaa agtagagatt caaaaacatg     240
ccacagggaa gaagtctcca gcaaagagtc ctaatcccag cacacctcgt gggaagaaaa     300
agaaaggctt tgccagcatc tgagacccca aaagctgcag agtctgagac cccagggaaa     360
agcccagaga agaagcctaa aatcaaagaa gaggcagtga aggaaaaaag tccttcgctg     420
gggaaaaaag atgcgagaca gactcccaaa aaagccagag gccaagtttt tcaccattcc     480
tagtaaatct gtgagaaaag cttcccacac ccccaaaaaa tggcccaaaa aacccaaagt     540
accccagtcg acctaaagtc agtgattcaa ctggaaggaa acctcaatgc tgcctccaga     600
gcttttttgga aatactcaga tcctggccgc ctttgtaacc ttctctaaac gtcaggcctg     660
gacttaaaag atttttttaaa acctccataa gtagtccagg ggcggtggct cacgcctgta     720
atcccagcac tttgggaggc cgaggcaggc ggatcacaag gtcaacgaga tcgagaccat     780
cctggccaac atggtgaaac cctgtctgta ccaaaaatac aaaaattaat tgggcatggt     840
ggtggacacc tgtaatccca gctactaggg aggctgaggc aggagaattg cttgaacctg     900
ggaggcggag gttgcagtga gccactgcac tccagcctga tgacagagca agactcagtc     960
tcaaaaataa ataaaaataa taaaacctcc ataagtaatc ctgaaaaa             1008

        <210> 697
        <211> 685
        <212> DNA
        <213> Homo Sapiens

        <400> 697
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aaaaaanaaa aagaaaaaag anaatgccca gcgcggtggc taatgcctgt aaccctagtg     120
agacagccaa gtaaaaacgg ctcccaagac aatctacaag cactgggagg atggggtgca     180
gcaccaaaat gttcacacca tttgcagagg ggaacagcct ggcccctgct gttccaggat     240
agtaaccagg aattcagttg gtgagatgga cagcctgtta gcaggactcc atctcacttt     300
gctgtgttgt tctttttccc ttttgcccaa taaattngta acccctcacc tttcaaagtg     360
tctgcgtgcc taatctttcc ctgccatgtg accagaaccc ggttttgttt acaacaccag     420
cactttggga ggcgaagatg ggctgattgc ttgagctcag gggtttaaga acagcctggg     480
caacatagtg aaaccctagt ttttaccaaa aatacgaaaa ttaaccaggc atgcctgtta     540
tcccagctga ggcacaagaa tcccttgaac ccaggaggcn gaannctaat tnnaacccga     600
aaatttgcnc ccactggccc ccccaggcgg aagctagtga gccgagattg cgccactgca     660
cccctgagac gctgtntcaa aaaaa                                         685

        <210> 698
        <211> 1205
        <212> DNA
        <213> Homo Sapiens
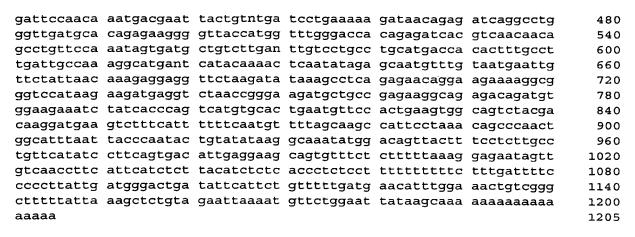
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ggatgtgctt ttacatggaa ctcctgacca aaaacgaaaa ctcatcagag aatgtcttac     180
cggagaaagt gaatcatcta gtgaagatga atttgaaaag gagatggaag ctgaattaaa     240
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aaatggaaaa gttgcaacag ctccgacaag gtactacgat gatatatatt ttgattctga     360
ttccgaggat gaagacagag cagtacaggt gaccaagaaa aaaagaagaa acaacacaa      420
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-366-

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gattccaaca aatgacgaat tactgtntga tcctgaaaaa gataacagag atcaggcctg      480
ggttgatgca cagagaaggg gttaccatgg tttgggacca cagagatcac gtcaacaaca      540
gcctgttcca aatagtgatg ctgtcttgan ttgtcctgcc tgcatgacca cactttgcct      600
tgattgccaa aggcatgant catacaaaac tcaatataga gcaatgtttg taatgaattg      660
ttctattaac aaagaggagg ttctaagata taaagcctca gagaacagga agaaaaggcg      720
ggtccataag aagatgaggt ctaaccggga agatgctgcc gagaaggcag agacagatgt      780
ggaagaaatc tatcacccag tcatgtgcac tgaatgttcc actgaagtgg cagtctacga      840
caaggatgaa gtctttcatt ttttcaatgt tttagcaagc cattcctaaa cagcccaact      900
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tgttcatatc cttcagtgac attgaggaag cagtgtttct cttttaaag gagaatagtt     1020
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cccctattg atgggactga tattcattct gtttttgatg aacatttgga aactgtcggg     1140
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aaaaa                                                                1205
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        <210> 699
        <211> 1427
        <212> DNA
        <213> Homo Sapiens

        <400> 699
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gatgttgcca caagctgcat tggagactca ttgcagtaat atttccaatg tgccacctac      180
aagagagata cttcaagtct ttcttactga tgtacacatg aaggaagtaa ttcagcagtt      240
cattgatgtc ctgagtgtag cagtcaagaa acgtgtcttg tgtttaccta gggatgaaaa      300
cctgacagca aatgaagttt tgaaaacgtg tgataggaaa gcaaatgttg caatcctgtt      360
ttctgggggc attgattcca tggttattgc aacccttgct gaccgtcata ttcctttaga      420
tgaaccaatt gatcttctta atgtagcttt catagctgaa gaaaagacca tgccaactac      480
ctttaacaga gaagggaata aacagaaaaa taaatgtgaa ataccttcag aagaattctc      540
taaagatgtt gctgctgctg ctgctgacag tcctaataaa catgtcagtg taccagatcg      600
aatcacagga agggcgggac taaaggaact acaagctgtt agcccttccc gaatttggaa      660
ttttgttgaa attaatgttt ctatggaaga actgcagaaa ttaagaagaa ctcgaatatg      720
tcacttaatt cggccattgg atacagtttt ggatgatagc attggctgtg cagtctggtt      780
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gctccaaatc atgtccttag aaaatctttc tattgaaaag gagactaaat tgtaatgtga     1320
ttcacaatgt aacaatataa aaataagttt ttatataatt atataaaagt aagatactct     1380
gctgctttac tattgtataa tatagtagtt ttaaagttca aaaaaaa                   1427
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        <210> 700
        <211> 1967
        <212> DNA
        <213> Homo Sapiens

        <400> 700
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atgcgagtgc agctttaatg atcccaatgc taaggagatg cacttaaaag ggcgaagaca      120
cagacttcaa tataaaaaaa aagtaaatcc agatttgcaa gtagaagtaa agcctagtat      180
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tcgagcaaga aagattcaag aagagaaaat gaggaagcaa atgcagaagg aggagtactg      240
gcgaagacga gaagaagagg agcgttggag aatggaaatg agacgttatg aagaggacat      300
gtactggagg agaatggagg aagaacaaca tcattgggat gatcgccgcc gaatgccaga      360
tggaggttat cctcatggtc ctccaggccc attaggcctt ctgggagtcc gaccaggcat      420
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gactcatctg atgaccgtta tgtaatgaca aaacatgcca ccatttatcc aactgaagag      600
gagttacagg cagttcagaa aattgtttct attactgaac gtgctttaaa actcgtttca      660
gacagtttgt ctgaacatga gaagaacaag aacaaagagg gagatgataa gaaagaggga      720
ggtaaagaca gagctttgaa aggagttttg cgagtgggag tatttgcaaa agggattact      780
tctcccggag atagaaatgt caaccttgtt ttgctgtgtc agagaaacct tcaaagacat      840
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gccctcagag ccctggggat gcactgagaa gagttttga atgcatttct tcaggatta      1320
ttcttaaagg tagtcctgga cttctggatc cttgtgaaaa ggatcccttt gataccttgg     1380
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tccttgcatt ccgccagata cacaaagttc taggcatgga tccattaccg caaatgagcc     1500
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ttgaagctga ggggaaaaaa gacaaaaaag attatgataa cttttaaaaa gtgtctgtaa     1620
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ctacattgaa aaatttatca agaatttaaa ggatttcatg gaagaaccaa gttttctat      1740
gatattaaaa aatgtacagt gttaggtatt atttgaatgg aaagacaccc aaaaaaaaaa     1800
atgtgctccg actaggggga aaacagtagt tccgattttt tcccattatt tttattttat     1860
tttctggttg ccctagcttc ccccctatt tttgtgtctt ttattaacta gtgcattgtc     1920
ttattaaatc ttcactgtat taaaaaaga aaaaaaaaa acaaaaa                     1967
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         <210> 701
         <211> 3423
         <212> DNA
         <213> Homo Sapiens

         <400> 701
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tgagaatacc gaggaccaga aatcctctga agacactgcc ccattcctag gaaccttagc      180
aggtgctacc tatgaggaac aggttcaaag ccaaattctt gagagcgctt ctctccctga      240
aaacacagca caggttgagt caaatgaggt catgggtgca ccagatgaca ggaccagaac      300
tcccttgag ccatccaact gttggagtga cttagatggt gggagccaca cagagaatgt      360
gggagaggca gcggtgactc tcccccttgag ccatccaact gttggagtga cttagatggt      420
gggagccaca cagagaatgt gggagaggca gcagtgactc aggttgaaga gcaggcaggc      480
acagtggcct cgtgtccttt agggcatagt gatgacacag tttatcatga tgacaaatgt      540
atggtagagg tcccccaaga gttagagaca agcacagggc atagtttgga gaaagaattc      600
accaaccagg aagcagctga gcccaaggag gttccagcgc acagtacaga agtaggtagg      660
gatcacaacg aagaagaggg tgaagaaaca ggattaaggg acgagaaacc aatcaagaca      720
gaattcctgg ttctccagca ggaactgagg gcaactgtca ggaagcgaca ggtccaagta      780
cagtagacac tcaaaatgaa cccttagata tgaaagagcc cgatgaagaa aagagtgacc      840
aacagggaga ggcattggac catcgcagaa gaagacaaag aacaagaaaa aaaaaaaaa      900
aaaaaagcg ggttctaggg cgccgggcgc tcgggcctcg gccatggctc acaggccgaa      960
aaggactttt cggcagcgcg cggctgattc cagcgacagc gatggcgccg aggagtcgcc     1020
tgctgagcct ggggcgccga gggaacttcc ggtcccgggt tctgcggagg aagagccgcc     1080
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ctctggagga ggccgcgcgc aggtggcggg actgccccac cgggttcggg gccctcgtgg   1140
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aagctggtgc ctctctcttc tttattccct gtaatagaag gtaggatttg aaaaaaagca   3300
ggactccacc tctgtattcc cccgtgcttt accttctggc atcatgaaaa gctgccatga   3360
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<210> 702
<211> 1106
<212> DNA
<213> Homo Sapiens

<400> 702
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cggctttgag cagctctgag gatgaagtgg atgtgctttt acatggaact cctgaccaaa    180
aacgaaaact catcagagaa tgtcttaccg gagaaagtga atcatctagt gaagatgaat    240
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cctctctggg aactggatct tcctcaggaa atggaaaagt tgcaacagct ccgacaaggt    360
actacgatga tatatatttt gattctgatt ccgaggatga agacagagca gtacaggtga    420
ccaagaaaaa aaagaagaaa caacacaaga ttccaacaaa tgacgaatta ctgtatgatc    480
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ctgaaaaaga taacagagat caggcctggg ttgatgcaca gagaaggggt taccatggtt      540
tgggaccaca gagatcacgt caacaacagc ctgttccaaa tagtgatgct gtcttgaatt      600
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caagccntcc taaacngccc nctggctttt atttccccat actgttttta agggcaaatt      960
tggacagttc cttncccctt gcccgntcnt ntccctcntt gacttgaagg aaccatnttt     1020
ccnnttttaa gggaaaaaat tgttcacctc cttccctct taattcctcc ccccncctt      1080
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<210> 703
<211> 1095
<212> DNA
<213> Homo Sapiens

<400> 703
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gctcctcagt cctagcttca tcaaacactg gttcctggaa tcctgtctgc tgctgtcttc      180
ctanattcac tgaatccact tctgtgtagc acctgggtca gctgtcaatt aatgctagtc      240
ctcaggattt aaaaaataat cttaactcaa agtccaatgc aaaaacatta agttggtaat      300
tactcttgat cttgaattac ttccgttacg aaagtccttc acatttttca aactaagcta      360
ctatatttaa ggccttccaa attcttctaa ctcttccaaa agccttctgc cttagttttt      420
tttaaattac accagtcctt ttagtagctt tttgatgtga tttttaacca acttcccctt      480
ctagcttcaa gtattcttct aaattggttc tggtctacgt aaacaccctc atcttctcaa      540
gctttacctt ctaacttctg caccaccaga aattaaattg atgggctttt aaaataaatt      600
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acttcaaatt ctatcttccc aaaatttttt ctnccaacnc cccaaataaa acttcccnnt     1020
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<210> 704
<211> 1968
<212> DNA
<213> Homo Sapiens

<400> 704
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ataagagttg ttgcctgcaa tctctatccc tttgtaaaga cagtggcttc tccaggtgta      420
actgttgagg aggctgtgga gcaaattgac attggtggag taaccttact gagagctgca      480
gccaaaaacc acgctcgagt gacagtggtg tgtgaaccag aggactatgt ggtggtgtcc      540
acggagatgc agagctccga gagtaaggac acctccttgg agactagacg ccagttagcc      600
ttgaaggcat tcactcatac ggcacaatat gatgaagcaa tttcagatta tttcaggaaa      660
```

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gacgaactgg gaatcatcct cgctcatacg aaccttcggc tcttccacca ctgattttac     1860
cacacactgt tttttggctt gcttatgtgt aggtgaacag tcacgcctga aactttgagg     1920
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<210> 705
<211> 800
<212> DNA
<213> Homo Sapiens

<400> 705
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gcagttgagg aaagaacaag caaatccaca ctcagtcagt agacttataa aagatgatgc      180
aagtgatgtt caagaggatt ctgcaatgga agacaagttc tatagcctgg atgaattgca      240
tattctggac atgatagagc agggctcagc tggcaaagta actacagact atggagaaac      300
tgaaaaggaa aggcttgctc gtcaaaggca gctttataaa ttgcactatc agtgtgaaga      360
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ttccaaatta cagcgtcaaa tccatgctaa agataatgaa atcaagaacc ttaaagagca      540
actttctatg aaaagatctc agtgggaaat ggaaaaacat aatctgggaa agcacaatga      600
aaacatacgt aagcaaactg aacgcagaaa ctagcagagc tttaacagcc gaaggtgtan      660
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<210> 706
<211> 487
<212> DNA
<213> Homo Sapiens

<400> 706
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tcaggacaaa tcttcaggac ttgtgaaatg aactgaaaga gcttgaagca gatggaattt      180
taatagttac actatatatg ctcttagtag gttttttttct tgtagtggaa acataactgt      240
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```

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actctcccct caagtattct acactttaat ttcctgaaat aaatttaagg aaaagggaaa      360
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aaaaaaa                                                                487
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        <210> 707
        <211> 3599
        <212> DNA
        <213> Homo Sapiens

        <400> 707

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-372-

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        <210> 708
        <211> 1123
        <212> PRT
        <213> Homo Sapiens

        <400> 708
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Ser Gln Glu Glu Arg Phe Ala Pro Gly Trp Asn Arg Asp Tyr Pro Pro
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Pro Pro Leu Lys Ser His Ala Gln Glu Arg His Ser Gly Asn Phe Pro
            35                  40                  45
Gly Arg Asp Ser Leu Pro Phe Asp Phe Gln Gly His Ser Gly Pro Pro
        50                  55                  60
Phe Ala Asn Val Glu Glu His Ser Phe Ser Tyr Gly Ala Arg Asp Gly
65                  70                  75                  80
Pro His Gly Asp Tyr Arg Gly Gly Glu Gly Pro Gly His Asp Phe Arg
                85                  90                  95
Gly Gly Asp Phe Ser Ser Ser Asp Phe Gln Ser Arg Asp Ser Ser Gln
                100                 105                 110
Leu Asp Phe Arg Gly Arg Asp Ile His Ser Gly Asp Phe Arg Asp Arg
            115                 120                 125
Glu Gly Pro Pro Met Asp Tyr Arg Gly Gly Asp Gly Thr Ser Met Asp
        130                 135                 140
Tyr Arg Gly Arg Glu Ala Pro His Met Asn Tyr Arg Asp Arg Asp Ala
145                 150                 155                 160
His Ala Val Asp Phe Arg Gly Arg Asp Ala Pro Pro Ser Asp Phe Arg
                165                 170                 175
Gly Arg Gly Thr Tyr Asp Leu Asp Phe Arg Gly Arg Asp Gly Ser His
            180                 185                 190
Ala Asp Phe Arg Gly Arg Asp Leu Ser Asp Leu Asp Phe Arg Ala Arg
        195                 200                 205
Glu Gln Ser Arg Ser Asp Phe Arg Asn Arg Asp Val Ser Asp Leu Asp
        210                 215                 220
Phe Arg Asp Lys Asp Gly Thr Gln Val Asp Phe Arg Gly Arg Gly Ser
225                 230                 235                 240
Gly Thr Thr Asp Leu Asp Phe Arg Asp Arg Asp Thr Pro His Ser Asp
                245                 250                 255
```

```
Phe Arg Gly Arg His Arg Ser Arg Thr Asp Gln Asp Phe Arg Gly Arg
            260                 265                 270
Glu Met Gly Ser Cys Met Glu Phe Lys Asp Arg Glu Met Pro Pro Val
            275                 280                 285
Asp Pro Asn Ile Leu Asp Tyr Ile Gln Pro Ser Thr Gln Asp Arg Glu
    290                 295                 300
His Ser Gly Met Asn Val Asn Arg Arg Glu Glu Ser Thr His Asp His
305                 310                 315                 320
Thr Ile Glu Arg Pro Ala Phe Gly Ile Gln Lys Gly Glu Phe Glu His
                325                 330                 335
Ser Glu Thr Arg Glu Gly Glu Thr Gln Gly Val Ala Phe Glu His Glu
            340                 345                 350
Ser Pro Ala Asp Phe Gln Asn Ser Gln Ser Pro Val Gln Asp Gln Asp
            355                 360                 365
Lys Ser Gln Leu Ser Gly Arg Glu Glu Gln Ser Ser Asp Ala Gly Leu
    370                 375                 380
Phe Lys Glu Glu Gly Gly Leu Asp Phe Leu Gly Arg Gln Asp Thr Asp
385                 390                 395                 400
Tyr Arg Ser Met Glu Tyr Arg Asp Val Asp His Arg Leu Pro Gly Ser
                405                 410                 415
Gln Met Phe Gly Tyr Gly Gln Ser Lys Ser Phe Pro Glu Gly Lys Thr
            420                 425                 430
Ala Arg Asp Ala Gln Arg Asp Leu Gln Asp Gln Asp Tyr Arg Thr Gly
            435                 440                 445
Pro Ser Glu Glu Lys Pro Ser Arg Leu Ile Arg Leu Ser Gly Val Pro
    450                 455                 460
Glu Asp Ala Thr Lys Glu Glu Ile Leu Asn Ala Phe Arg Thr Pro Asp
465                 470                 475                 480
Gly Met Pro Val Lys Asn Leu Gln Leu Lys Glu Tyr Asn Thr Gly Tyr
                485                 490                 495
Asp Tyr Gly Tyr Val Cys Val Glu Phe Ser Leu Leu Glu Asp Ala Ile
                500                 505                 510
Gly Cys Met Glu Ala Asn Gln Gly Thr Leu Met Ile Gln Asp Lys Glu
            515                 520                 525
Val Thr Leu Glu Tyr Val Ser Ser Leu Asp Phe Trp Tyr Cys Lys Arg
    530                 535                 540
Cys Lys Ala Asn Ile Gly Gly His Arg Ser Ser Cys Ser Phe Cys Lys
545                 550                 555                 560
Asn Pro Arg Glu Val Thr Glu Ala Lys Gln Glu Leu Ile Thr Tyr Pro
                565                 570                 575
Gln Pro Gln Lys Thr Ser Ile Pro Ala Pro Leu Glu Lys Gln Pro Asn
            580                 585                 590
Gln Pro Leu Arg Pro Ala Asp Lys Glu Pro Glu Pro Arg Lys Arg Glu
            595                 600                 605
Glu Gly Gln Glu Ser Arg Leu Gly His Gln Lys Arg Glu Ala Glu Arg
            610                 615                 620
Tyr Leu Pro Pro Ser Arg Arg Glu Gly Pro Thr Phe Arg Arg Asp Arg
625                 630                 635                 640
Glu Arg Glu Ser Trp Ser Gly Glu Thr Arg Gln Asp Gly Glu Ser Lys
                645                 650                 655
Thr Ile Met Leu Lys Arg Ile Tyr Arg Ser Thr Pro Pro Glu Val Ile
                660                 665                 670
Val Glu Val Leu Glu Pro Tyr Val Arg Leu Thr Thr Ala Asn Val Arg
    675                 680                 685
Ile Ile Lys Asn Arg Thr Gly Pro Met Gly His Thr Tyr Gly Phe Ile
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Asp Leu Asp Ser His Val Glu Ala Leu Arg Val Val Lys Ile Leu Gln
705                    710                   715                   720
Asn Leu Asp Pro Pro Phe Ser Ile Asp Gly Lys Met Val Ala Val Asn
                725                    730                   735
Leu Ala Thr Gly Lys Arg Arg Asn Asp Ser Gly Asp His Ser Asp His
                740                    745                   750
Met His Tyr Tyr Gln Gly Lys Lys Tyr Phe Arg Asp Arg Arg Gly Gly
                755                    760                   765
Gly Arg Asn Ser Asp Trp Ser Ser Asp Thr Asn Arg Gln Gly Gln Gln
                770                    775                   780
Ser Ser Ser Asp Cys Tyr Ile Tyr Asp Ser Ala Ser Gly Tyr Tyr Tyr
785                          790                   795                   800
Asp Pro Leu Ala Gly Thr Tyr Tyr Asp Pro Asn Thr Gln Gln Glu Val
                805                    810                   815
Tyr Val Pro Gln Asp Pro Gly Leu Pro Glu Glu Glu Glu Ile Lys Glu
                820                    825                   830
Lys Lys Pro Thr Ser Gln Gly Lys Ser Ser Ser Lys Lys Glu Met Ser
                835                    840                   845
Lys Arg Asp Gly Lys Glu Lys Lys Asp Arg Gly Val Thr Arg Phe Gln
850                          855                   860
Glu Asn Ala Ser Glu Gly Lys Ala Pro Ala Glu Asp Val Phe Lys Lys
865                          870                   875                   880
Pro Leu Pro Pro Thr Val Lys Lys Glu Glu Ser Pro Pro Pro Lys
                885                    890                   895
Val Val Asn Pro Leu Ile Gly Leu Leu Gly Glu Tyr Gly Gly Asp Ser
                900                    905                   910
Asp Tyr Glu Glu Glu Glu Glu Glu Glu Gln Thr Pro Pro Pro Gln Pro
                915                    920                   925
Arg Thr Ala Gln Pro Gln Lys Arg Glu Glu Gln Thr Lys Lys Glu Asn
                930                    935                   940
Glu Glu Asp Lys Leu Thr Asp Trp Asn Lys Leu Ala Cys Leu Leu Cys
945                          950                   955                   960
Arg Arg Gln Phe Pro Asn Lys Glu Val Leu Ile Lys His Gln Gln Leu
                965                    970                   975
Ser Asp Leu His Lys Gln Asn Leu Glu Ile His Arg Lys Ile Lys Gln
                980                    985                   990
Ser Glu Gln Glu Leu Ala Tyr Leu Glu Arg Arg Glu Arg Glu Gly Lys
                995                    1000                  1005
Phe Lys Gly Arg Gly Asn Asp Arg Arg Glu Lys Leu Gln Ser Phe Asp
        1010                   1015                  1020
Ser Pro Glu Arg Lys Arg Ile Lys Tyr Ser Arg Glu Thr Asp Ser Asp
1025                   1030                   1035                  104
Arg Lys Leu Val Asp Lys Glu Asp Ile Asp Thr Ser Ser Lys Gly Gly
                1045                   1050                  1055
Cys Val Gln Gln Ala Thr Gly Trp Arg Lys Gly Thr Gly Leu Gly Tyr
        1060                   1065                  1070
Gly His Pro Gly Leu Ala Ser Ser Glu Glu Ala Glu Gly Arg Met Arg
        1075                   1080                  1085
Gly Pro Ser Val Gly Ala Ser Gly Arg Thr Ser Lys Arg Gln Ser Asn
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Glu Thr Tyr Arg Asp Ala Val Arg Arg Val Met Phe Ala Arg Tyr Lys
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<210> 709
<211> 3807
<212> DNA
<213> Homo Sapiens

<400> 709

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caaggaaagt caagtagcaa gaaggaaatg tctaaaagag atggcaagga gaaaaaagac    2880
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        <211> 1177
        <212> PRT
        <213> Homo Sapiens


        <400> 710
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            20                  25                  30
Ser His Arg Thr Cys His Leu Asp Trp Gln Ser Ala Arg Phe Tyr Tyr
        35                  40                  45
Leu Asn Ala Thr Asp Val Leu Ile His Cys Ser Glu Ala Trp Ser Ser
    50                  55                  60
Asn Glu Lys Phe Ser Gly Ser Gln Glu Glu Arg Phe Ala Pro Gly Trp
65                  70                  75                  80
Asn Arg Asp Tyr Pro Pro Pro Leu Lys Ser His Ala Gln Glu Arg
                85                  90                  95
His Ser Gly Asn Phe Pro Gly Arg Asp Ser Leu Pro Phe Asp Phe Gln
            100                 105                 110
Gly His Ser Gly Pro Pro Phe Ala Asn Val Glu Glu His Ser Phe Ser
        115                 120                 125
Tyr Gly Ala Arg Asp Gly Pro His Gly Asp Tyr Arg Gly Gly Glu Gly
    130                 135                 140
Pro Gly His Asp Phe Arg Gly Gly Asp Phe Ser Ser Ser Asp Phe Gln
145                 150                 155                 160
Ser Arg Asp Ser Ser Gln Leu Asp Phe Arg Gly Arg Asp Ile His Ser
                165                 170                 175
Gly Asp Phe Arg Asp Arg Glu Gly Pro Pro Met Asp Tyr Arg Gly Gly
            180                 185                 190
Asp Gly Thr Ser Met Asp Tyr Arg Gly Arg Glu Ala Pro His Met Asn
        195                 200                 205
Tyr Arg Asp Arg Asp Ala His Ala Val Asp Phe Arg Gly Arg Asp Ala
    210                 215                 220
Pro Pro Ser Asp Phe Arg Gly Arg Gly Thr Tyr Asp Leu Asp Phe Arg
225                 230                 235                 240
Gly Arg Asp Gly Ser His Ala Asp Phe Arg Gly Arg Asp Leu Ser Asp
                245                 250                 255
Leu Asp Phe Arg Ala Arg Glu Gln Ser Arg Ser Asp Phe Arg Asn Arg
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-377-

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                260                    265                    270
Asp Val Ser Asp Leu Asp Phe Arg Asp Lys Asp Gly Thr Gln Val Asp
            275                    280                    285
Phe Arg Gly Arg Gly Ser Gly Thr Thr Asp Leu Asp Phe Arg Asp Arg
        290                    295                    300
Asp Thr Pro His Ser Asp Phe Arg Gly Arg His Arg Ser Arg Thr Asp
305                    310                    315                    320
Gln Asp Phe Arg Gly Arg Glu Met Gly Ser Cys Met Glu Phe Lys Asp
                325                    330                    335
Arg Glu Met Pro Pro Val Asp Pro Asn Ile Leu Asp Tyr Ile Gln Pro
            340                    345                    350
Ser Thr Gln Asp Arg Glu His Ser Gly Met Asn Val Asn Arg Arg Glu
        355                    360                    365
Glu Ser Thr His Asp His Thr Ile Glu Arg Pro Ala Phe Gly Ile Gln
    370                    375                    380
Lys Gly Glu Phe Glu His Ser Glu Thr Arg Glu Gly Glu Thr Gln Gly
385                    390                    395                    400
Val Ala Phe Glu His Glu Ser Pro Ala Asp Phe Gln Asn Ser Gln Ser
                405                    410                    415
Pro Val Gln Asp Gln Asp Lys Ser Gln Leu Ser Gly Arg Glu Glu Gln
            420                    425                    430
Ser Ser Asp Ala Gly Leu Phe Lys Glu Glu Gly Gly Leu Asp Phe Leu
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Gly Arg Gln Asp Thr Asp Tyr Arg Ser Met Glu Tyr Arg Asp Val Asp
    450                    455                    460
His Arg Leu Pro Gly Ser Gln Met Phe Gly Tyr Gly Gln Ser Lys Ser
465                    470                    475                    480
Phe Pro Glu Gly Lys Thr Ala Arg Asp Ala Gln Arg Asp Leu Gln Asp
                485                    490                    495
Gln Asp Tyr Arg Thr Gly Pro Ser Glu Glu Lys Pro Ser Arg Leu Ile
            500                    505                    510
Arg Leu Ser Gly Val Pro Glu Asp Ala Thr Lys Glu Glu Ile Leu Asn
        515                    520                    525
Ala Phe Arg Thr Pro Asp Gly Met Pro Val Lys Asn Leu Gln Leu Lys
    530                    535                    540
Glu Tyr Asn Thr Gly Tyr Asp Tyr Gly Tyr Val Cys Val Glu Phe Ser
545                    550                    555                    560
Leu Leu Glu Asp Ala Ile Gly Cys Met Glu Ala Asn Gln Gly Thr Leu
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Met Ile Gln Asp Lys Glu Val Thr Leu Glu Tyr Val Ser Ser Leu Asp
            580                    585                    590
Phe Trp Tyr Cys Lys Arg Cys Lys Ala Asn Ile Gly Gly His Arg Ser
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Ser Cys Ser Phe Cys Lys Asn Pro Arg Glu Val Thr Glu Ala Lys Gln
    610                    615                    620
Glu Leu Ile Thr Tyr Pro Gln Pro Gln Lys Thr Ser Ile Pro Ala Pro
625                    630                    635                    640
Leu Glu Lys Gln Pro Asn Gln Pro Leu Arg Pro Ala Asp Lys Glu Pro
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Glu Pro Arg Lys Arg Glu Glu Gly Gln Glu Ser Arg Leu Gly His Gln
            660                    665                    670
Lys Arg Glu Ala Glu Arg Tyr Leu Pro Pro Ser Arg Arg Glu Gly Pro
        675                    680                    685
Thr Phe Arg Arg Asp Arg Glu Arg Glu Ser Trp Ser Gly Glu Thr Arg
    690                    695                    700
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Gln Asp Gly Glu Ser Lys Thr Ile Met Leu Lys Arg Ile Tyr Arg Ser
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Thr Pro Pro Glu Val Ile Val Glu Val Leu Glu Pro Tyr Val Arg Leu
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Thr Thr Ala Asn Val Arg Ile Ile Lys Asn Arg Thr Gly Pro Met Gly
            740             745             750
His Thr Tyr Gly Phe Ile Asp Leu Asp Ser His Val Glu Ala Leu Arg
        755             760             765
Val Val Lys Ile Leu Gln Asn Leu Asp Pro Pro Phe Ser Ile Asp Gly
    770             775             780
Lys Met Val Ala Val Asn Leu Ala Thr Gly Lys Arg Arg Asn Asp Ser
785             790             795                 800
Gly Asp His Ser Asp His Met His Tyr Tyr Gln Gly Lys Lys Tyr Phe
            805             810             815
Arg Asp Arg Arg Gly Gly Gly Arg Asn Ser Asp Trp Ser Ser Asp Thr
            820             825             830
Asn Arg Gln Gly Gln Gln Ser Ser Ser Asp Cys Tyr Ile Tyr Asp Ser
        835             840             845
Ala Ser Gly Tyr Tyr Tyr Asp Pro Leu Ala Gly Thr Tyr Tyr Asp Pro
    850             855             860
Asn Thr Gln Gln Glu Val Tyr Val Pro Gln Asp Pro Gly Leu Pro Glu
865             870             875                 880
Glu Glu Glu Ile Lys Glu Lys Lys Pro Thr Ser Gln Gly Lys Ser Ser
            885             890             895
Ser Lys Lys Glu Met Ser Lys Arg Asp Gly Lys Glu Lys Lys Asp Arg
            900             905             910
Gly Val Thr Arg Phe Gln Glu Asn Ala Ser Glu Gly Lys Ala Pro Ala
        915             920             925
Glu Asp Val Phe Lys Lys Pro Leu Pro Pro Thr Val Lys Lys Glu Glu
    930             935             940
Ser Pro Pro Pro Pro Lys Val Val Asn Pro Leu Ile Gly Leu Leu Gly
945             950             955                 960
Glu Tyr Gly Gly Asp Ser Asp Tyr Glu Glu Glu Glu Glu Glu Glu Gln
            965             970             975
Thr Pro Pro Pro Gln Pro Arg Thr Ala Gln Pro Gln Lys Arg Glu Glu
            980             985             990
Gln Thr Lys Lys Glu Asn Glu Glu Asp Lys Leu Thr Asp Trp Asn Lys
        995             1000            1005
Leu Ala Cys Leu Leu Cys Arg Arg Gln Phe Pro Asn Lys Glu Val Leu
    1010            1015            1020
Ile Lys His Gln Gln Leu Ser Asp Leu His Lys Gln Asn Leu Glu Ile
1025            1030            1035                104
His Arg Lys Ile Lys Gln Ser Glu Gln Glu Leu Ala Tyr Leu Glu Arg
            1045            1050            1055
Arg Glu Arg Glu Gly Lys Phe Lys Gly Arg Gly Asn Asp Arg Arg Glu
            1060            1065            1070
Lys Leu Gln Ser Phe Asp Ser Pro Glu Arg Lys Arg Ile Lys Tyr Ser
        1075            1080            1085
Arg Glu Thr Asp Ser Asp Arg Lys Leu Val Asp Lys Glu Asp Ile Asp
    1090            1095            1100
Thr Ser Ser Lys Gly Gly Cys Val Gln Gln Ala Thr Gly Trp Arg Lys
1105            1110            1115                112
Gly Thr Gly Leu Gly Tyr Gly His Pro Gly Leu Ala Ser Ser Glu Glu
            1125            1130            1135
Ala Glu Gly Arg Met Arg Gly Pro Ser Val Gly Ala Ser Gly Arg Thr
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          1140                 1145                 1150
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        <211> 4060
        <212> DNA
        <213> Homo Sapiens

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cgtgttctga aactaacaga actggacctt ttcggactgg gtgaaagctt tttctgcagc   360
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<212> DNA
<213> Homo Sapiens

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        <212> PRT
        <213> Homo Sapiens

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        <211> 10
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        <211> 10
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Asp Thr Asp Tyr Xaa Arg Ser Met Glu Tyr
1               5                   10


        <210> 716
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        <212> PRT
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        <400> 716
Ser Leu Leu Glu Xaa Asp Ala Ile Gly Cys
1               5                   10


        <210> 717
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 717
Thr Leu Met Ile Xaa Gln Asp Lys Glu Val
1               5                   10


        <210> 718
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 718
Tyr Val Ser Ser Leu Asp Phe Trp Tyr Cys
1               5                   10


        <210> 719
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 719
Val Ile Val Glu Val Leu Glu Pro Tyr Val
1               5                   10


        <210> 720
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 720
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Lys Leu Thr Asp Xaa Trp Asn Lys Leu Ala
1               5                   10


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        <213> Homo Sapiens


        <400> 721
Gln Leu Ser Asp Leu His Lys Gln Asn Leu
1               5                   10


        <210> 722
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 722
Lys Gln Ser Glu Gln Glu Leu Ala Tyr Leu
1               5                   10


        <210> 723
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 723
Lys Leu Val Asp Lys Glu Asp Ile Asp Thr
1               5                   10


      ' <210> 724
        <211> 10
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        <400> 724
Val Met Phe Ala Xaa Arg Tyr Lys Glu Leu
1               5                   10


        <210> 725
        <211> 10
        <212> PRT
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        <400> 725
Gln Met Phe Gly Xaa Tyr Gly Gln Ser Lys
1               5                   10


        <210> 726
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 726
Gly Met Pro Val Lys Asn Leu Gln Leu Lys
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1   5   10

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        <210> 727
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        <212> PRT
        <213> Homo Sapiens

        <400> 727
Gly Leu Pro Glu Xaa Glu Glu Glu Ile Lys
1               5                    10


        <210> 728
        <211> 10
        <212> PRT
        <213> Homo Sapiens

        <400> 728
Leu Leu Cys Arg Arg Gln Phe Pro Asn Lys
1               5                    10


        <210> 729
        <211> 10
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        <213> Homo Sapiens

        <400> 729
Glu Tyr Arg Asp Xaa Val Asp His Arg Leu
1               5                    10


        <210> 730
        <211> 10
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        <400> 730
Gly Tyr Val Cys Xaa Val Glu Phe Ser Leu
1               5                    10


        <210> 731
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        <212> PRT
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        <400> 731
Asp Tyr Gly Tyr Xaa Val Cys Val Glu Phe
1               5                    10


        <210> 732
        <211> 10
        <212> PRT
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        <400> 732
Trp Tyr Cys Lys Arg Cys Lys Ala Asn Ile
1               5                    10
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<210> 733
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<213> Homo Sapiens

<400> 733
Thr Tyr Pro Gln Pro Gln Lys Thr Ser Ile
1               5                   10


<210> 734
<211> 10
<212> PRT
<213> Homo Sapiens

<400> 734
Ile Tyr Arg Ser Thr Pro Pro Glu Val Ile
1               5                   10


<210> 735
<211> 10
<212> PRT
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<400> 735
His Tyr Tyr Gln Xaa Gly Lys Lys Tyr Phe
1               5                   10


<210> 736
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<400> 736
Val Tyr Val Pro Xaa Gln Asp Pro Gly Leu
1               5                   10


<210> 737
<211> 10
<212> PRT
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<400> 737
Trp Asn Arg Asp Tyr Pro Pro Pro Pro Leu
1               5                   10


<210> 738
<211> 10
<212> PRT
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<400> 738
Met Pro Pro Val Xaa Asp Pro Asn Ile Leu
1               5                   10


<210> 739
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      <211> 10
      <212> PRT
      <213> Homo Sapiens

      <400> 739
Thr Ala Arg Asp Xaa Ala Gln Arg Asp Leu
1                 5                   10


      <210> 740
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      <400> 740
Gly Pro Ser Glu Glu Lys Pro Ser Arg Leu
1                 5                   10


      <210> 741
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      <212> PRT
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      <400> 741
Thr Pro Pro Glu Val Ile Val Glu Val Leu
1                 5                   10


      <210> 742
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      <400> 742
Arg Val Met Phe Ala Arg Tyr Lys Glu Leu
1                 5                   10


      <210> 743
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      <212> PRT
      <213> Homo Sapiens

      <400> 743
Arg Glu Met Gly Xaa Ser Cys Met Glu Phe
1                 5                   10


      <210> 744
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Glu Glu Gln Ser Ser Asp Ala Gly Leu Phe
1                 5                   10


      <210> 745
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        <212> PRT
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        <400> 745
Lys Glu Tyr Asn Xaa Thr Gly Tyr Asp Tyr
1                 5                   10

        <210> 746
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        <213> Homo Sapiens

        <400> 746
Thr Glu Ala Lys Gln Glu Leu Ile Thr Tyr
1                 5                   10

        <210> 747
        <211> 10
        <212> PRT
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        <400> 747
Val Glu Ala Leu Arg Val Val Lys Ile Leu
1                 5                   10

        <210> 748
        <211> 10
        <212> PRT
        <213> Homo Sapiens

        <400> 748
Gly Glu Tyr Gly Xaa Gly Asp Ser Asp Tyr
1                 5                   10

        <210> 749
        <211> 10
        <212> PRT
        <213> Homo Sapiens

        <400> 749
Leu Glu Arg Arg Glu Arg Glu Gly Lys Phe
1                 5                   10

        <210> 750
        <211> 10
        <212> PRT
        <213> Homo Sapiens

        <400> 750
Arg Gln Asp Gly Glu Ser Lys Thr Ile Met
1                 5                   10

        <210> 751
        <211> 10
        <212> PRT
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<213> Homo Sapiens

<400> 751
Thr Pro Pro Glu Val Ile Val Glu Val Leu
1   5   10

<210> 752
<211> 10
<212> PRT
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<400> 752
Tyr Gly Phe Ile Asp Leu Asp Ser His Val
1   5   10

<210> 753
<211> 10
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<400> 753
Arg Gln Phe Pro Xaa Asn Lys Glu Val Leu
1   5   10

<210> 754
<211> 10
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<400> 754
Asn Val Glu Glu Xaa His Ser Phe Ser Tyr
1   5   10

<210> 755
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<400> 755
Pro Val Asp Pro Xaa Asn Ile Leu Asp Tyr
1   5   10

<210> 756
<211> 10
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Asp Thr Asp Tyr Xaa Arg Ser Met Glu Tyr
1   5   10

<210> 757
<211> 10
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        <400> 757
Trp Gln Ser Ala Xaa Arg Phe Tyr Tyr Leu
  1               5               10


        <210> 758
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 758
Ser Leu Leu Glu Xaa Asp Ala Ile Gly Cys
  1               5               10


        <210> 759
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        <212> PRT
        <213> Homo Sapiens


        <400> 759
Thr Leu Met Ile Xaa Gln Asp Lys Glu Val
  1               5               10


        <210> 760
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 760
Tyr Val Ser Ser Leu Asp Phe Trp Tyr Cys
  1               5               10


        <210> 761
        <211> 10
        <212> PRT
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        <400> 761
Val Ile Val Glu Val Leu Glu Pro Tyr Val
  1               5               10


        <210> 762
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 762
Lys Leu Thr Asp Xaa Trp Asn Lys Leu Ala
  1               5               10


        <210> 763
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        <212> PRT
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        <400> 763
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Gln Leu Ser Asp Leu His Lys Gln Asn Leu
1               5                   10


        <210> 764
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        <400> 764
Lys Gln Ser Glu Gln Glu Leu Ala Tyr Leu
1               5                   10


        <210> 765
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        <212> PRT
        <213> Homo Sapiens


        <400> 765
Lys Leu Val Asp Lys Glu Asp Ile Asp Thr
1               5                   10


        <210> 766
        <211> 10
        <212> PRT
        <213> Homo Sapiens


        <400> 766
Val Met Phe Ala Xaa Arg Tyr Lys Glu Leu
1               5                   10


        <210> 767
        <211> 10
        <212> PRT
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        <400> 767
Gln Met Phe Gly Xaa Tyr Gly Gln Ser Lys
1               5                   10


        <210> 768
        <211> 10
        <212> PRT
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        <400> 768
Gly Met Pro Val Lys Asn Leu Gln Leu Lys
1               5                   10


        <210> 769
        <211> 10
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        <400> 769
Gly Leu Pro Glu Xaa Glu Glu Glu Ile Lys
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 1              5                    10
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            <210> 770
            <211> 10
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            <400> 770
Leu Leu Cys Arg Arg Gln Phe Pro Asn Lys
 1               5                   10


            <210> 771
            <211> 10
            <212> PRT
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            <400> 771
Tyr Tyr Leu Asn Xaa Ala Thr Asp Val Leu
 1               5                   10


            <210> 772
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            <212> PRT
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            <400> 772
Phe Tyr Tyr Leu Asn Ala Thr Asp Val Leu
 1               5                   10


            <210> 773
            <211> 10
            <212> PRT
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            <400> 773
Glu Tyr Arg Asp Xaa Val Asp His Arg Leu
 1               5                   10


            <210> 774
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            <212> PRT
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            <400> 774
Gly Tyr Val Cys Xaa Val Glu Phe Ser Leu
 1               5                   10


            <210> 775
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            <400> 775
Asp Tyr Gly Tyr Xaa Val Cys Val Glu Phe
 1               5                   10
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<210> 776
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<400> 776
Trp Tyr Cys Lys Arg Cys Lys Ala Asn Ile
1               5                   10


<210> 777
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<400> 777
Thr Tyr Pro Gln Pro Gln Lys Thr Ser Ile
1               5                   10


<210> 778
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Ile Tyr Arg Ser Thr Pro Pro Glu Val Ile
1               5                   10


<210> 779
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His Tyr Tyr Gln Xaa Gly Lys Lys Tyr Phe
1               5                   10


<210> 780
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<400> 780
Val Tyr Val Pro Xaa Gln Asp Pro Gly Leu
1               5                   10


<210> 781
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<400> 781
Trp Asn Arg Asp Tyr Pro Pro Pro Leu
1               5                   10


<210> 782
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        <211> 10
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        <400> 782
Met Pro Pro Val Xaa Asp Pro Asn Ile Leu
1               5                   10

        <210> 783
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        <400> 783
Thr Ala Arg Asp Xaa Ala Gln Arg Asp Leu
1               5                   10

        <210> 784
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        <400> 784
Gly Pro Ser Glu Glu Lys Pro Ser Arg Leu
1               5                   10

        <210> 785
        <211> 10
        <212> PRT
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        <400> 785
Thr Pro Pro Glu Val Ile Val Glu Val Leu
1               5                   10

        <210> 786
        <211> 10
        <212> PRT
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        <400> 786
Arg Val Met Phe Ala Arg Tyr Lys Glu Leu
1               5                   10

        <210> 787
        <211> 10
        <212> PRT
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        <400> 787
Ser Glu Ala Trp Ser Ser Asn Glu Lys Phe
1               5                   10

        <210> 788
        <211> 10
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      <212> PRT
      <213> Homo Sapiens

      <400> 788
Arg Glu Met Gly Xaa Ser Cys Met Glu Phe
1               5                   10

      <210> 789
      <211> 10
      <212> PRT
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      <400> 789
Glu Glu Gln Ser Ser Asp Ala Gly Leu Phe
1               5                   10

      <210> 790
      <211> 10·
      <212> PRT
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      <400> 790
Lys Glu Tyr Asn Xaa Thr Gly Tyr Asp Tyr
1               5                   10

      <210> 791
      <211> 10
      <212> PRT
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      <400> 791
Thr Glu Ala Lys Gln Glu Leu Ile Thr Tyr
1               5                   10

      <210> 792
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      <400> 792
Val Glu Ala Leu Arg Val Val Lys Ile Leu
1               5                   10

      <210> 793
      <211> 10
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      <400> 793
Gly Glu Tyr Gly Xaa Gly Asp Ser Asp Tyr
1               5                   10

      <210> 794
      <211> 10
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    <213> Homo Sapiens
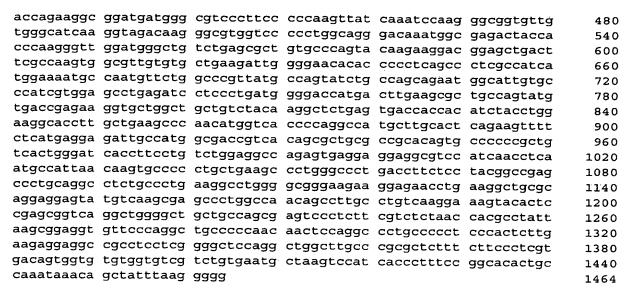
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Leu Glu Arg Arg Glu Arg Glu Gly Lys Phe
1               5               10


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    <400> 795
Arg Gln Asp Gly Glu Ser Lys Thr Ile Met
1               5               10


    <210> 796
    <211> 10
    <212> PRT
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    <400> 796
Thr Pro Pro Glu Val Ile Val Glu Val Leu
1               5               10


    <210> 797
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    <212> PRT
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    <400> 797
Tyr Gly Phe Ile Asp Leu Asp Ser His Val
1               5               10


    <210> 798
    <211> 10
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    <400> 798
Arg Gln Phe Pro Xaa Asn Lys Glu Val Leu
1               5               10


    <210> 799
    <211> 1464
    <212> DNA
    <213> Homo Sapiens


    <400> 799
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ggaggtccct ggccaaagat ttatttctct tgacaaccaa gggcctccgt ctggatttcc    120
aaggaagaat ttcctctgaa gcaccggaac ttgctactac cagcaccatg ccctaccaat    180
atccagcact gaccccggag cagaagaagg agctgtctga catcgctcac cgcatcgtgg    240
cacctggcaa gggcatcctg gctgcagatg agtccactgg gagcattgcc aagcggctgc    300
agtccattgg caccgagaac accgaggaga accggcgctt ctaccgccag ctgctgctga    360
cagctgacga ccgcgtgaac ccctgcattg ggggtgtcat cctcttccat gagacactct    420
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accagaaggc ggatgatggg cgtcccttcc cccaagttat caaatccaag ggcggtgttg    480
tgggcatcaa ggtagacaag ggcgtggtcc ccctggcagg gacaaatggc gagactacca    540
cccaagggtt ggatgggctg tctgagcgct gtgcccagta caagaaggac ggagctgact    600
tcgccaagtg gcgttgtgtg ctgaagattg gggaacacac cccctcagcc ctcgccatca    660
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ccatcgtgga gcctgagatc ctccctgatg gggaccatga cttgaagcgc tgccagtatg    780
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ctcatgagga gattgccatg gcgaccgtca cagcgctgcg ccgcacagtg cccccgctg    960
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aagcggaggt gttcccaggc tgcccccaac aactccaggc cctgccccct cccactcttg   1320
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gacagtggtg tgtggtgtcg tctgtgaatg ctaagtccat cacccttccc ggcacactgc   1440
caaataaaca gctatttaag gggg                                          1464
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<210> 800
<211> 364
<212> PRT
<213> Homo Sapiens

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            20                  25                  30
Ala Asp Glu Ser Thr Gly Ser Ile Ala Lys Arg Leu Gln Ser Ile Gly
            35                  40                  45
Thr Glu Asn Thr Glu Glu Asn Arg Arg Phe Tyr Arg Gln Leu Leu Leu
        50                  55                  60
Thr Ala Asp Asp Arg Val Asn Pro Cys Ile Gly Gly Val Ile Leu Phe
65                  70                  75                  80
His Glu Thr Leu Tyr Gln Lys Ala Asp Asp Gly Arg Pro Phe Pro Gln
                85                  90                  95
Val Ile Lys Ser Lys Gly Gly Val Val Gly Ile Lys Val Asp Lys Gly
            100                 105                 110
Val Val Pro Leu Ala Gly Thr Asn Gly Glu Thr Thr Thr Gln Gly Leu
            115                 120                 125
Asp Gly Leu Ser Glu Arg Cys Ala Gln Tyr Lys Lys Asp Gly Ala Asp
            130                 135                 140
Phe Ala Lys Trp Arg Cys Val Leu Lys Ile Gly Glu His Thr Pro Ser
145                 150                 155                 160
Ala Leu Ala Ile Met Glu Asn Ala Asn Val Leu Ala Arg Tyr Ala Ser
                165                 170                 175
Ile Cys Gln Gln Asn Gly Ile Val Pro Ile Val Glu Pro Glu Ile Leu
            180                 185                 190
Pro Asp Gly Asp His Asp Leu Lys Arg Cys Gln Tyr Val Thr Glu Lys
            195                 200                 205
Val Leu Ala Ala Val Tyr Lys Ala Leu Ser Asp His His Ile Tyr Leu
            210                 215                 220
Glu Gly Thr Leu Leu Lys Pro Asn Met Val Thr Pro Gly His Ala Cys
225                 230                 235                 240
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Thr Gln Lys Phe Ser His Glu Glu Ile Ala Met Ala Thr Val Thr Ala
            245                 250                 255
Leu Arg Arg Thr Val Pro Pro Ala Val Thr Gly Ile Thr Phe Leu Ser
            260                 265                 270
Gly Gly Gln Ser Glu Glu Glu Ala Ser Ile Asn Leu Asn Ala Ile Asn
            275                 280                 285
Lys Cys Pro Leu Leu Lys Pro Trp Ala Leu Thr Phe Ser Tyr Gly Arg
            290                 295                 300
Ala Leu Gln Ala Ser Ala Leu Lys Ala Trp Gly Gly Lys Lys Glu Asn
305                 310                 315                 320
Leu Lys Ala Ala Gln Glu Glu Tyr Val Lys Arg Ala Leu Ala Asn Ser
            325                 330                 335
Leu Ala Cys Gln Gly Lys Tyr Thr Pro Ser Gly Gln Ala Gly Ala Ala
            340                 345                 350
Ala Ser Glu Ser Leu Phe Val Ser Asn His Ala Tyr
            355                 360
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<211> 3504
<212> DNA
<213> Homo Sapiens

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aactcttgca gtcgtttatg tcatcccttc ttctccagac agaagatacc aaaaagttgc       180
aatcaaagat ctgttcatct tattgataaa gtcactaata agccaaaatg tctgtcaacg       240
tcaaccgcag cgtgtcagac cagttctatc gctacaagat gccccgtttg attgctaagg       300
ttgagggcaa aggaaatgga atcaagacag ttatagtcaa catggttgac gttgcaaagg       360
cgcttaatcg gcctccaacg tatcccacca atattttgg ttgtgagctg ggagcacaga       420
cccagtttga tgttaagaat gaccgttaca ttgtcaatgg atctcatgag gcgaataagc       480
tgcaagacat gttggatgga ttcattaaaa aatttgttct ctgtcctgag tgtgagaatc       540
ctgaaacaga tctgcatgtc aatccaaaga agcaaacaat aggtaattct tgtaaagcct       600
gtgggtaccg aggcatgctt gacacacatc ataaactctg tacattcatt ctcaaaaacc       660
cacctgagaa tagtgacatt ggtacaggaa agaaagagaa agaaaagaaa aatagaaagg       720
gcaaggacaa ggaaaatggc tctgtatcca ccagtgagac accaccacct ccaccaccaa       780
atgaaattag tcctccacat gctgtggaag aagaggaaga tgatgattgg ggggaggata       840
caactgagga agctcaaagg cgcagaatgg atgaaatcag tgaccatgca aaaggtctga       900
cacttagcga tgatttggaa agaactgtag aagagcgtgt aacatcctg tttgatttg       960
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cagaaagact ggatgtaaaa gccatgggcc ctctcgtttt gacagaagtt ctctttgatg      1080
agaagataag agagcaaatc aagaaataca ggcgccattt tttaagattt tgtcataaca      1140
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ctcagttgat ctccaagatt ccacatatct tgaaggagat gtatgatgca gacctttag      1260
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catgctacac ttgatactaa aaagctatta ctgtgagtgg tctataatta agcccaatga      1680
gacatctagg gagtccatac atatcagtga gcagttgtag tttgcttatt tatagcatgt      1740
ttctttcgga aaaactagtg gtggacacat ttggatcaca tttatacagt tataaaaaat      1800
aaagatttga ttttggtcat tcttcagact ttgggctatg aatggcttat gctgaagtaa      1860
ttggctactt ttaggatgtt acaccattta ataacttaga cttcttaagt ttggtagatt      1920
```

```
gttaggtact gaagacttga agaatgcaaa caattataat gaccttactc agccattaag    1980
aaatgaagta ttttgaaagt tgtgtctcca gtccattgag attggcaact gacaattctt    2040
gtcattctaa ggaaatttga tgatttaatg acagtgtgac atcctcatga gaagtaaaaa    2100
tgacctgtgt gtcctatggt ttaagagcaa attttgaaac ttggagttgt ggttttttcag   2160
tttgtgtaca ctcaccccaa attgtagtct attgagtcat gtgcattgca cgttggataa    2220
gccagggaaa tgacaaataa gtattttgtg tgtatttagt ggttgctttg tactgagaga    2280
aaagctttga ggtgtgatta aatcgtaaac tctgattcta tttgggagaa acaggaaaaa    2340
ggtgcactta atctaaaaca gcataagttt tcaactttta cccttaaatt ataatttcaa    2400
gatgtttaga catactgtat cttgtgtttg atgtgttccc cctccctaat attatggttt    2460
attctttaat gcctttttaat ttggatataa tagcttgtac tttagatttt ggttgctatc   2520
ttgccaaaat aagtgttact gtttttcaag cttgatcccc ttccctgatt gtcttattta    2580
aagagaaagt taaactcata cttctgagtc agagcctgta ttttggttaa gacttgggat    2640
attttttact tcacattgaa tatagctgga tacctgagaa gtctggtgat ggcactgggt    2700
gggtgcagct agctaaggcc tgaccagccc attcagagcc ttggacttca gacacaaaag    2760
tgagtttctt acccacttgc tggtgtaaac tctatctggg gtcctgacta tatttgaata    2820
cttgtcttca atattaaaaa acatagcaca ttttttctttc tacaaaagta cattctggag    2880
ttaagaaccc atgtggttga tttgtgtgtg gcgtgctagc tcatacatta tttggatctt    2940
attctttgtg tcatccatct cacagattat aagactttga ttaatgtaaa aagtatgcgt    3000
taaaatcata ccaaacattt ggtaaaatta aaaccttgat gggaggctgg gcgtggaaca    3060
ggagccatat acctggaatg gtaacagggg aatgtgctat gtcacaccaa agaagtggga    3120
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gtttttattc atggaggtta acctggtaag agtaatcctt catggctcta ttgaggtgtc    3420
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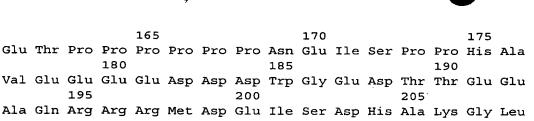aatttccccc tcctttcata ttaa    3504
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```
<210> 802
<211> 429
<212> PRT
<213> Homo Sapiens

<400> 802
Met Ser Val Asn Val Asn Arg Ser Val Ser Asp Gln Phe Tyr Arg Tyr
1               5                   10                  15
Lys Met Pro Arg Leu Ile Ala Lys Val Glu Gly Lys Gly Asn Gly Ile
            20                  25                  30
Lys Thr Val Ile Val Asn Met Val Asp Val Ala Lys Ala Leu Asn Arg
        35                  40                  45
Pro Pro Thr Tyr Pro Thr Lys Tyr Phe Gly Cys Glu Leu Gly Ala Gln
    50                  55                  60
Thr Gln Phe Asp Val Lys Asn Asp Arg Tyr Ile Val Asn Gly Ser His
65                  70                  75                  80
Glu Ala Asn Lys Leu Gln Asp Met Leu Asp Gly Phe Ile Lys Lys Phe
                85                  90                  95
Val Leu Cys Pro Glu Cys Glu Asn Pro Glu Thr Asp Leu His Val Asn
            100                 105                 110
Pro Lys Lys Gln Thr Ile Gly Asn Ser Cys Lys Ala Cys Gly Tyr Arg
        115                 120                 125
Gly Met Leu Asp Thr His His Lys Leu Cys Thr Phe Ile Leu Lys Asn
    130                 135                 140
Pro Pro Glu Asn Ser Asp Ile Gly Thr Gly Lys Lys Glu Lys Glu Lys
145                 150                 155                 160
Lys Asn Arg Lys Gly Lys Asp Lys Glu Asn Gly Ser Val Ser Thr Ser
```

```
                      165               170                 175
Glu Thr Pro Pro Pro Pro Pro Pro Asn Glu Ile Ser Pro Pro His Ala
                  180               185           190
Val Glu Glu Glu Glu Asp Asp Asp Trp Gly Glu Asp Thr Thr Glu Glu
              195               200           205
Ala Gln Arg Arg Arg Met Asp Glu Ile Ser Asp His Ala Lys Gly Leu
          210               215           220
Thr Leu Ser Asp Asp Leu Glu Arg Thr Val Glu Glu Arg Val Asn Ile
225               230               235               240
Leu Phe Asp Phe Val Lys Lys Lys Glu Glu Gly Ile Ile Asp Ser
              245               250               255
Ser Asp Lys Asp Ile Val Ala Glu Ala Glu Arg Leu Asp Val Lys Ala
              260               265               270
Met Gly Pro Leu Val Leu Thr Glu Val Leu Phe Asp Glu Lys Ile Arg
          275               280               285
Glu Gln Ile Lys Lys Tyr Arg Arg His Phe Leu Arg Phe Cys His Asn
          290               295               300
Asn Lys Lys Ala Gln Arg Tyr Leu Leu His Gly Leu Glu Cys Val Val
305               310               315               320
Ala Met His Gln Ala Gln Leu Ile Ser Lys Ile Pro His Ile Leu Lys
              325               330               335
Glu Met Tyr Asp Ala Asp Leu Leu Glu Glu Glu Val Ile Ile Ser Trp
          340               345               350
Ser Glu Lys Ala Ser Lys Lys Tyr Val Ser Lys Glu Leu Ala Lys Glu
          355               360               365
Ile Arg Val Lys Ala Glu Pro Phe Ile Lys Trp Leu Lys Glu Ala Glu
      370               375               380
Glu Glu Ser Ser Gly Gly Glu Glu Glu Asp Glu Asp Glu Asn Ile Glu
385               390               395               400
Val Val Tyr Ser Lys Thr Ala Ser Val Pro Lys Val Glu Thr Val Lys
              405               410               415
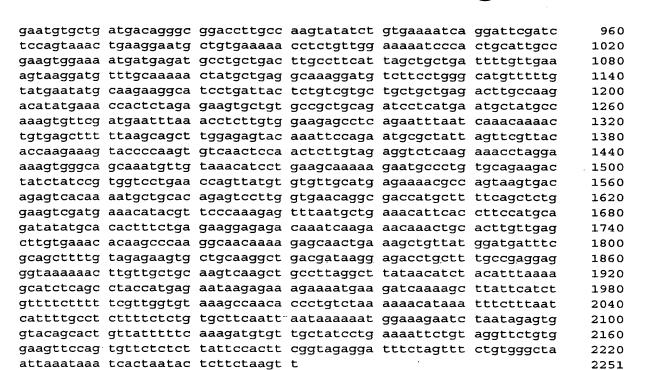Ser Asp Asn Lys Asp Asp Asp Ile Asp Ile Asp Ala Ile
              420               425
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```
      <210> 803
      <211> 2251
      <212> DNA
      <213> Homo Sapiens

      <400> 803
aggatgtctt ctggcaattt catataagta tttttttcaaa aatgtctctt ctgtcaaccc     60
cacgcctttg gcacaatgaa gtgggtaacc tttatttccc ttctttttct ctttagctcg    120
gcttattcca ggggtgtgtt tcgtcgagat gcacacaaga gtgaggttgc tcatcggttt    180
aaagatttgg gagaagaaaa tttcaaagcc ttggtgttga ttgcctttgc tcagtatctt    240
cagcagtgtc catttgaaga tcatgtaaaa ttagtgaatg aagtaactga atttgcaaaa    300
acatgtgtag ctgatgagtc agctgaaaat tgtgacaaat cacttcatac ccttttttgga    360
gacaaattat gcacagttgc aactcttcgt gaaacctatg gtgaaatggc tgactgctgt    420
gcaaaacaag aacctgagag aaatgaatgc ttcttgcaac acaaagatga caacccaaac    480
ctcccccgat ggtgagacc agaggttgat gtgatgtgca ctgctttttca tgacaatgaa    540
gagacatttt tgaaaaaata cttatatgaa attgccagaa gacatcctta ctttttatgcc    600
ccggaactcc ttttctttgc taaaaggtat aaagctgctt ttacagaatg ttgccaagct    660
gctgataaag ctgcctgcct gttgccaaag ctcgatgaac ttcgggatga agggaaggct    720
tcgtctgcca aacagagact caaatgtgcc agtctccaaa aatttggaga aagagctttc    780
aaagcatggg cagtggctcg cctgagccag agatttccca agctgagtt tgcagaagtt    840
tccaagttag tgacagatct taccaaagtc cacacggaat gctgccatgg agatctgctt    900
```

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gaatgtgctg atgacagggc ggaccttgcc aagtatatct gtgaaaatca ggattcgatc   960
tccagtaaac tgaaggaatg ctgtgaaaaa cctctgttgg aaaaatccca ctgcattgcc  1020
gaagtggaaa atgatgagat gcctgctgac ttgccttcat tagctgctga ttttgttgaa  1080
agtaaggatg tttgcaaaaa ctatgctgag gcaaaggatg tcttcctggg catgtttttg  1140
tatgaatatg caagaaggca tcctgattac tctgtcgtgc tgctgctgag acttgccaag  1200
acatatgaaa ccactctaga gaagtgctgt gccgctgcag atcctcatga atgctatgcc  1260
aaagtgttcg atgaatttaa acctcttgtg gaagagcctc agaatttaat caaacaaaac  1320
tgtgagcttt ttaagcagct tggagagtac aaattccaga atgcgctatt agttcgttac  1380
accaagaaag taccccaagt gtcaactcca actcttgtag aggtctcaag aaacctagga  1440
aaagtgggca gcaaatgttg taaacatcct gaagcaaaaa gaatgccctg tgcagaagac  1500
tatctatccg tggtcctgaa ccagttatgt gtgttgcatg agaaaacgcc agtaagtgac  1560
agagtcacaa aatgctgcac agagtccttg gtgaacaggc gaccatgctt ttcagctctg  1620
gaagtcgatg aaacatacgt tcccaaagag tttaatgctg aaacattcac cttccatgca  1680
gatatatgca cactttctga gaaggagaga caaatcaaga aacaaactgc acttgttgag  1740
cttgtgaaac acaagcccaa ggcaacaaaa gagcaactga agctgttat ggatgatttc  1800
gcagcttttg tagagaagtg ctgcaaggct gacgataagg agacctgctt tgccgaggag  1860
ggtaaaaaac ttgttgctgc aagtcaagct gccttaggct tataacatct acatttaaaa  1920
gcatctcagc ctaccatgag aataagagaa agaaatgaa gatcaaaagc ttattcatct  1980
gttttctttt tcgttggtgt aaagccaaca ccctgtctaa aaaacataaa tttctttaat  2040
cattttgcct cttttctctg tgcttcaatt aataaaaat ggaaagaatc taatagagtg  2100
gtacagcact gttatttttc aaagatgtgt tgctatcctg aaaattctgt aggttctgtg  2160
gaagttccag tgttctctct tattccactt cggtagagga tttctagttt ctgtgggcta  2220
attaaataaa tcactaatac tcttctaagt t                                  2251
```

```
        <210>  804
        <211>  609
        <212>  PRT
        <213>  Homo Sapiens

        <400>  804
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15
Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
            20                  25                  30
His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
        35                  40                  45
Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
        50                  55                  60
Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65                  70                  75                  80
Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
                85                  90                  95
Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
            100                 105                 110
Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
            115                 120                 125
His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
        130                 135                 140
Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
145                 150                 155                 160
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
                165                 170                 175
Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
            180                 185                 190
Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
```

```
          195                    200                    205
Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
     210                    215                    220
Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
225                    230                    235                    240
Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
                    245                    250                    255
Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
                    260                    265                    270
Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
                    275                    280                    285
Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
                    290                    295                    300
Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
305                    310                    315                    320
Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
                    325                    330                    335
Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
                    340                    345                    350
Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
                    355                    360                    365
Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
     370                    375                    380
Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
385                    390                    395                    400
Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
                    405                    410                    415
Glu Leu Phe Lys Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
                    420                    425                    430
Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
     435                    440                    445
Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
     450                    455                    460
Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
465                    470                    475                    480
Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
                    485                    490                    495
Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
                    500                    505                    510
Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
                    515                    520                    525
Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
                    530                    535                    540
Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
545                    550                    555                    560
Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
                    565                    570                    575
Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
                    580                    585                    590
Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
                    595                    600                    605
Leu
```

<210> 805

<211> 1356
<212> DNA
<213> Homo Sapiens

<400> 805

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acaaacacca aggagtggag gtcagagtgt cactttttg tttctttttt gaaagatcat    60
tcgagaaaca cgtcactgat ctcccctgcg accatgtctt ccattaagat tgagtgtgtt   120
ttgccagaga actgccggtg tggtgagtct ccagtatggg aggaagtgtc caactctctg   180
ctctttgtag acattcctgc aaaaaaggtt tgccggtggg attcattcac caagcaagta   240
cagcgagtga ccatggatgc cccagtcagc tccgtggctc ttcgccagtc gggaggctat   300
gttgccacca ttggaacaaa gttctgtgct ttgaactgga agaacaatc agcagttgtc   360
ttggccacgg tggataacga caagaaaaac aatcgcttca atgatgggaa ggtggatccc   420
gccgggaggt actttgctgg caccatggct gaggaaacag ctccagcagt tcttgagcgg   480
caccaggggg ccctgtactc cctctttcct gatcaccacg tgaaaaagta ctttgaccag   540
gtggacattt ccaatggttt ggattggtcg ctagaccaca aaatcttcta ttacattgac   600
agcctgtcct actccgtgga tgcctttgac tatgacctgc agacaggaca gatctccaac   660
cgcagaagtg tttacaagct agaaaaggaa gaacaaatcc cagatggaat gtgtattgat   720
gctgagggga agctctgggt ggcctgttac aatggaggaa gagtgattcg tttagatcct   780
gtgacaggga aaagacttca aactgtgaag ttgcctgttg ataaaacaac ttcatgctgc   840
tttggaggga gaattactc tgaaatgtat gtgacctgcg cccgggatgg gatggacccc   900
gagggtcttt tgaggcaacc tgaagctggt ggaattttca agataactgg tctgggggtc   960
aaaggaattg ctccctactc ctatgcggga tgaggacagg tcttctttcc tgccagaggg  1020
agctctgaag acaactagag aattctgggc ctgaaatttc aatctagtta gaaagaaaaa  1080
tgaggcaatg attttattaa cagcgttaag ttttaattta caactttaa aaggcagagc  1140
attttaaca aggggtgaca ggtggttttg ataacacact tataaggctt tctgtaaaag  1200
gtactataga agggcgaaga atcgttcaac tgtcaatcag cctcttgatt ctttgtaaat  1260
tgccagggtg ggtgggtaca tatctcttct tgattctgca tttcatactt aactatatta  1320
aagcttcaag gaacaataaa tagtaacctg gtaatg                            1356
```

<210> 806
<211> 299
<212> PRT
<213> Homo Sapiens

<400> 806

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Met Ser Ser Ile Lys Ile Glu Cys Val Leu Pro Glu Asn Cys Arg Cys
1               5                  10                  15
Gly Glu Ser Pro Val Trp Glu Glu Val Ser Asn Ser Leu Leu Phe Val
            20                  25                  30
Asp Ile Pro Ala Lys Lys Val Cys Arg Trp Asp Ser Phe Thr Lys Gln
        35                  40                  45
Val Gln Arg Val Thr Met Asp Ala Pro Val Ser Ser Val Ala Leu Arg
    50                  55                  60
Gln Ser Gly Gly Tyr Val Ala Thr Ile Gly Thr Lys Phe Cys Ala Leu
65                  70                  75                  80
Asn Trp Lys Glu Gln Ser Ala Val Val Leu Ala Thr Val Asp Asn Asp
                85                  90                  95
Lys Lys Asn Asn Arg Phe Asn Asp Gly Lys Val Asp Pro Ala Gly Arg
                100                 105                 110
Tyr Phe Ala Gly Thr Met Ala Glu Glu Thr Ala Pro Ala Val Leu Glu
            115                 120                 125
Arg His Gln Gly Ala Leu Tyr Ser Leu Phe Pro Asp His His Val Lys
        130                 135                 140
Lys Tyr Phe Asp Gln Val Asp Ile Ser Asn Gly Leu Asp Trp Ser Leu
145                 150                 155                 160
```

-403-

```
Asp His Lys Ile Phe Tyr Tyr Ile Asp Ser Leu Ser Tyr Ser Val Asp
            165             170             175
Ala Phe Asp Tyr Asp Leu Gln Thr Gly Gln Ile Ser Asn Arg Arg Ser
            180             185             190
Val Tyr Lys Leu Glu Lys Glu Glu Gln Ile Pro Asp Gly Met Cys Ile
            195             200             205
Asp Ala Glu Gly Lys Leu Trp Val Ala Cys Tyr Asn Gly Gly Arg Val
            210             215             220
Ile Arg Leu Asp Pro Val Thr Gly Lys Arg Leu Gln Thr Val Lys Leu
225             230             235             240
Pro Val Asp Lys Thr Thr Ser Cys Cys Phe Gly Gly Lys Asn Tyr Ser
            245             250             255
Glu Met Tyr Val Thr Cys Ala Arg Asp Gly Met Asp Pro Glu Gly Leu
            260             265             270
Leu Arg Gln Pro Glu Ala Gly Gly Ile Phe Lys Ile Thr Gly Leu Gly
            275             280             285
Val Lys Gly Ile Ala Pro Tyr Ser Tyr Ala Gly
            290             295
```

```
        <210> 807
        <211> 1980
        <212> DNA
        <213> Homo Sapiens

        <400> 807
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atgaaagccg cggagagggg agatgtagaa aaagtttcct caatccttgc taaaaagggc    180
atcaatccag gcaaactaga tgtggaaggc agatctgcct tccatgttgt ggcctcaaag    240
gggaatcttg aatgtttgaa tgccatcctt atacatggag ttgatattac aaccagtgac    300
actgcaggaa gaaatgctct tcacttggct gcaaagtatg ggcatgcatt gtgtctacaa    360
aaacttctac agtacaattg tcccactgaa catgcagacc tgcaggaag aaccgcactt    420
catgacgcag caatggcaga ctgtccttcc agcatacagc tgctttgtga ccatgggcc    480
tccgtgaatg ccaaagatgt ggatgggcgg acaccgctgg ttctggctac tcagatgtgt    540
aggccagcaa tctgtcaact gctgatagat cgaggggcag agattaattc cagagacaaa    600
caaaacagaa ctgctctcat gcttggttgc gagtatggtt gtaaggatgc tgtagaagtc    660
ttacttaaaa atggtgctga tgtaagcctg ctggatgcct tgggccatga tagttcttac    720
tatgcaagaa ttggtgacaa tctggacatt ctaactttat tgaagactgc gtcagaaaat    780
accaacaaag ggagagaact ttggaagaaa ggaccatctt tacagcagcg aaatttgccg    840
tacatgctag atgaagtaaa tgtgaagtca agtcagaggg agcatcgaaa cattcaggag    900
ctggagattg aaaatgaaga tttgaaagac aggttgagaa aaattcagca agaacagaga    960
atattactgg ataaagtcaa tggtttacaa ctacagctga atgaggaagt gatggttgct   1020
gatgatctgg aaagtgagaa agaaaagctg aagtctcttt tggtggctaa agaaaagcaa   1080
catgaagaaa gcctaagaac tattgagtct ctgaaaaaca gatttaaata ttttgagtgt   1140
acttccccag gggtgccagc ccacatgcaa agcaggtcta tgttaagacc actggagcta   1200
tcattaccca atcaaacctc atattctgaa aatgacctct aaagaaaga gttagaagca   1260
atgagaactt tctgcgaatc agccaaacaa gaccgcctca agctccagaa cggagtggcg   1320
cacaaggtgg ctgagtgcaa agctttagga ctagaatgtg aacgcatcaa ggaggactct   1380
gatgagcaga taaagcagtt agaagacgca ttgaaagatg tgcagaagag aatgtatgag   1440
tcggaaggta agtaaaaca aatgcagaca cactttcttg cccttaaaga gcacctgacc   1500
agtgaagcag ctatagggaa tcacagacta atggaggagc tgaaggatca gttgaaggac   1560
atgaaagcga aatatgaggg tgcatcagca gaagtgggaa aactgcgaaa ccaaatcaaa   1620
caaaatgagc tgctagtaga acagtttagg agagatgaag caagctggt ggaagagaat   1680
aagcgattgc agaaggaact cagtatgtgt gaaacggagc gagacaagaa aggaaggagg   1740
gttgctgagg tggaaggcca ggtaaaggaa ctcttagcaa agctgacctt gtcagttcca   1800
```

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actgaaaaat ttgagagcat gaagagctta ttatcaagcg aagtaaatga gaaggtgaaa    1860
aaaattggag agacagaaag agagtatgaa aaatcactta ctgaaatcag acagttaagg    1920
agagagcttg agaattgtaa gcgccaaact tcctcagcat gtcaagccag aggagcatga    1980
```

<210> 808
<211> 659
<212> PRT
<213> Homo Sapiens

<400> 808

Met	Pro	Ser	Ser	Leu	Leu	Leu	Ala	Thr	Arg	Asn	Gln	Ile	Leu	Ser	Met
1				5					10					15
Met	Asn	Cys	Trp	Phe	Ser	Cys	Ala	Pro	Lys	Asn	Arg	His	Ala	Ala	Asp
			20					25					30
Trp	Asn	Lys	Tyr	Asp	Asp	Arg	Leu	Met	Lys	Ala	Ala	Glu	Arg	Gly	Asp
		35					40					45
Val	Glu	Lys	Val	Ser	Ser	Ile	Leu	Ala	Lys	Lys	Gly	Ile	Asn	Pro	Gly
	50					55					60
Lys	Leu	Asp	Val	Glu	Gly	Arg	Ser	Ala	Phe	His	Val	Val	Ala	Ser	Lys
65					70					75					80
Gly	Asn	Leu	Glu	Cys	Leu	Asn	Ala	Ile	Leu	Ile	His	Gly	Val	Asp	Ile
				85					90					95
Thr	Thr	Ser	Asp	Thr	Ala	Gly	Arg	Asn	Ala	Leu	His	Leu	Ala	Ala	Lys
			100					105					110
Tyr	Gly	His	Ala	Leu	Cys	Leu	Gln	Lys	Leu	Leu	Gln	Tyr	Asn	Cys	Pro
		115					120					125
Thr	Glu	His	Ala	Asp	Leu	Gln	Gly	Arg	Thr	Ala	Leu	His	Asp	Ala	Ala
		130					135					140
Met	Ala	Asp	Cys	Pro	Ser	Ser	Ile	Gln	Leu	Leu	Cys	Asp	His	Gly	Ala
145					150					155					160
Ser	Val	Asn	Ala	Lys	Asp	Val	Asp	Gly	Arg	Thr	Pro	Leu	Val	Leu	Ala
				165					170					175
Thr	Gln	Met	Cys	Arg	Pro	Ala	Ile	Cys	Gln	Leu	Leu	Ile	Asp	Arg	Gly
			180					185					190
Ala	Glu	Ile	Asn	Ser	Arg	Asp	Lys	Gln	Asn	Arg	Thr	Ala	Leu	Met	Leu
		195					200					205
Gly	Cys	Glu	Tyr	Gly	Cys	Lys	Asp	Ala	Val	Glu	Val	Leu	Leu	Lys	Asn
	210					215					220
Gly	Ala	Asp	Val	Ser	Leu	Leu	Asp	Ala	Leu	Gly	His	Asp	Ser	Ser	Tyr
225					230					235					240
Tyr	Ala	Arg	Ile	Gly	Asp	Asn	Leu	Asp	Ile	Leu	Thr	Leu	Leu	Lys	Thr
			245					250					255
Ala	Ser	Glu	Asn	Thr	Asn	Lys	Gly	Arg	Glu	Leu	Trp	Lys	Lys	Gly	Pro
			260					265					270
Ser	Leu	Gln	Gln	Arg	Asn	Leu	Pro	Tyr	Met	Leu	Asp	Glu	Val	Asn	Val
		275					280					285
Lys	Ser	Ser	Gln	Arg	Glu	His	Arg	Asn	Ile	Gln	Glu	Leu	Glu	Ile	Glu
	290					295					300
Asn	Glu	Asp	Leu	Lys	Asp	Arg	Leu	Arg	Lys	Ile	Gln	Gln	Glu	Gln	Arg
305					310					315					320
Ile	Leu	Leu	Asp	Lys	Val	Asn	Gly	Leu	Gln	Leu	Gln	Leu	Asn	Glu	Glu
			325					330					335
Val	Met	Val	Ala	Asp	Asp	Leu	Glu	Ser	Glu	Lys	Glu	Lys	Leu	Lys	Ser
		340					345					350
Leu	Leu	Val	Ala	Lys	Glu	Lys	Gln	His	Glu	Glu	Ser	Leu	Arg	Thr	Ile

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                  355                    360                    365
Glu Ser Leu Lys Asn Arg Phe Lys Tyr Phe Glu Cys Thr Ser Pro Gly
         370                    375                    380
Val Pro Ala His Met Gln Ser Arg Ser Met Leu Arg Pro Leu Glu Leu
385                    390                    395                    400
Ser Leu Pro Asn Gln Thr Ser Tyr Ser Glu Asn Asp Leu Leu Lys Lys
                  405                    410                    415
Glu Leu Glu Ala Met Arg Thr Phe Cys Glu Ser Ala Lys Gln Asp Arg
                  420                    425                    430
Leu Lys Leu Gln Asn Gly Val Ala His Lys Val Ala Glu Cys Lys Ala
                  435                    440                    445
Leu Gly Leu Glu Cys Glu Arg Ile Lys Glu Asp Ser Asp Glu Gln Ile
         450                    455                    460
Lys Gln Leu Glu Asp Ala Leu Lys Asp Val Gln Lys Arg Met Tyr Glu
465                    470                    475                    480
Ser Glu Gly Lys Val Lys Gln Met Gln Thr His Phe Leu Ala Leu Lys
                  485                    490                    495
Glu His Leu Thr Ser Glu Ala Ala Ile Gly Asn His Arg Leu Met Glu
                  500                    505                    510
Glu Leu Lys Asp Gln Leu Lys Asp Met Lys Ala Lys Tyr Glu Gly Ala
                  515                    520                    525
Ser Ala Glu Val Gly Lys Leu Arg Asn Gln Ile Lys Gln Asn Glu Leu
         530                    535                    540
Leu Val Glu Gln Phe Arg Arg Asp Glu Gly Lys Leu Val Glu Glu Asn
545                    550                    555                    560
Lys Arg Leu Gln Lys Glu Leu Ser Met Cys Glu Thr Glu Arg Asp Lys
                  565                    570                    575
Lys Gly Arg Arg Val Ala Glu Val Glu Gly Gln Val Lys Glu Leu Leu
         580                    585                    590
Ala Lys Leu Thr Leu Ser Val Pro Thr Glu Lys Phe Glu Ser Met Lys
         595                    600                    605
Ser Leu Leu Ser Ser Glu Val Asn Glu Lys Val Lys Lys Ile Gly Glu
         610                    615                    620
Thr Glu Arg Glu Tyr Glu Lys Ser Leu Thr Glu Ile Arg Gln Leu Arg
625                    630                    635                    640
Arg Glu Leu Glu Asn Cys Lys Arg Gln Thr Ser Ser Ala Cys Gln Ala
                  645                    650                    655
Arg Gly Ala
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        <211> 1725
        <212> DNA
        <213> Homo Sapiens

        <400> 809
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gctgtcccct tttctgggac tattcaagga ggtctccagg acggacttca gatcactgtc   180
aatgggaccg ttctcagctc cagtggaacc aggtttgctg tgaactttca gactggcttc   240
agtggaaatg acattgcctt ccacttcaac cctcggtttg aagatggagg gtacgtggtg   300
tgcaacacga ggcagaacgg aagctggggg cccgaggaga ggaagacaca catgcctttc   360
cagaagggga tgccctttga cctctgcttc ctggtgcaga gctcagattt caaggtgatg   420
gtgaacggga tcctcttcgt gcagtacttc caccgcgtgc ccttccaccg tgtggacacc   480
atctccgtca atggctctgt gcagctgtcc tacatcagct tccagaaccc ccgcacagtc   540
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cctgttcagc ctgccttctc cacggtgccg ttctcccagc ctgtctgttt cccacccagg      600
cccagggggc gcagacaaaa acctcccggc gtgtggcctg ccaacccggc tcccattacc      660
cagacagtca tccacacagt gcagagcgcc cctggacaga tgttctctac tcccgccatc      720
ccacctatga tgtaccccca ccccgcctat ccgatgcctt tcatcaccac cattctggga      780
gggctgtacc catccaagtc catcctcctg tcaggcactg tcctgcccag tgctcagagg      840
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gagaatgctg tggtccgcaa cacccagatc gacaactcct gggggtctga ggagcgaagt      960
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gctcactgcc tcaaggtggc cgtggatggt cagcacctgt ttgaatacta ccatcgcctg     1080
aggaacctgc ccaccatcaa cagactggaa gtggggggcg acatccagct gacccatgtg     1140
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ctctcatcat ccccacttcc caggcccagc ctttccaacc ctgcctggga tctgggcttt     1260
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gaatcctacc atcccaggag gcaggcacag ccagggagag gggaggagtg ggcagtgaag     1440
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accagctgtc tgctcctggt gggaggtggc ctcctcagcc cctcctctct gaccttaaac     1560
ctcactctca ccttgcaccg tgcaccaacc cttcacccct cctggaaagc aggcctgatg     1620
gcttcccact ggcctccacc acctgaccag agtgttctct tcagaggact ggctcctttc     1680
ccagtgtcct taaaataaag aaatgaaat gcttgttggc acatt                     1725
```

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        <211> 355
        <212> PRT
        <213> Homo Sapiens

        <400> 810
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1               5                   10                  15
Phe Ser Gly Thr Ile Gln Gly Gly Leu Gln Asp Gly Leu Gln Ile Thr
            20                  25                  30
Val Asn Gly Thr Val Leu Ser Ser Ser Gly Thr Arg Phe Ala Val Asn
        35                  40                  45
Phe Gln Thr Gly Phe Ser Gly Asn Asp Ile Ala Phe His Phe Asn Pro
    50                  55                  60
Arg Phe Glu Asp Gly Gly Tyr Val Val Cys Asn Thr Arg Gln Asn Gly
65                  70                  75                  80
Ser Trp Gly Pro Glu Glu Arg Lys Thr His Met Pro Phe Gln Lys Gly
                85                  90                  95
Met Pro Phe Asp Leu Cys Phe Leu Val Gln Ser Ser Asp Phe Lys Val
            100                 105                 110
Met Val Asn Gly Ile Leu Phe Val Gln Tyr Phe His Arg Val Pro Phe
        115                 120                 125
His Arg Val Asp Thr Ile Ser Val Asn Gly Ser Val Gln Leu Ser Tyr
    130                 135                 140
Ile Ser Phe Gln Asn Pro Arg Thr Val Pro Val Gln Pro Ala Phe Ser
145                 150                 155                 160
Thr Val Pro Phe Ser Gln Pro Val Cys Phe Pro Pro Arg Pro Arg Gly
                165                 170                 175
Arg Arg Gln Lys Pro Pro Gly Val Trp Pro Ala Asn Pro Ala Pro Ile
            180                 185                 190
Thr Gln Thr Val Ile His Thr Val Gln Ser Ala Pro Gly Gln Met Phe
        195                 200                 205
Ser Thr Pro Ala Ile Pro Pro Met Met Tyr Pro His Pro Ala Tyr Pro
    210                 215                 220
```

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```
Met Pro Phe Ile Thr Thr Ile Leu Gly Gly Leu Tyr Pro Ser Lys Ser
225                     230             235             240
Ile Leu Leu Ser Gly Thr Val Leu Pro Ser Ala Gln Arg Phe His Ile
                245             250             255
Asn Leu Cys Ser Gly Asn His Ile Ala Phe His Leu Asn Pro Arg Phe
            260             265             270
Asp Glu Asn Ala Val Val Arg Asn Thr Gln Ile Asp Asn Ser Trp Gly
        275             280             285
Ser Glu Glu Arg Ser Leu Pro Arg Lys Met Pro Phe Val Arg Gly Gln
        290             295             300
Ser Phe Ser Val Trp Ile Leu Cys Glu Ala His Cys Leu Lys Val Ala
305             310             315             320
Val Asp Gly Gln His Leu Phe Glu Tyr Tyr His Arg Leu Arg Asn Leu
            325             330             335
Pro Thr Ile Asn Arg Leu Glu Val Gly Gly Asp Ile Gln Leu Thr His
            340             345             350
Val Gln Thr
            355
```

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        <211> 1022
        <212> DNA
        <213> Homo Sapiens
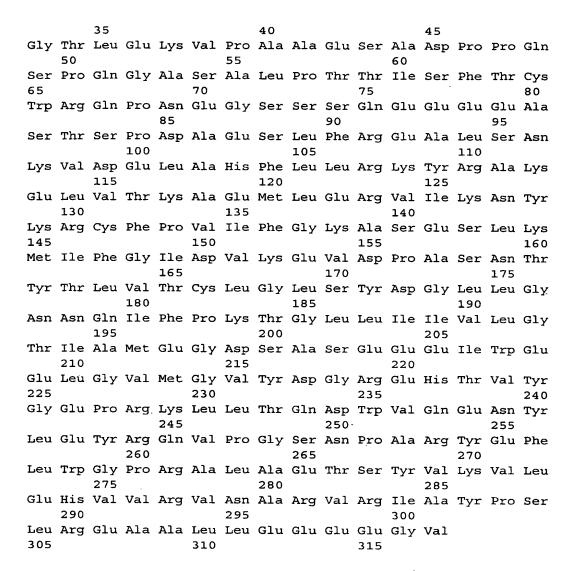
        <400> 811
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aagaagaggc cctgggcctg gtgggtgcac aggctcctac tactgaggag caggaggctg  180
ctgtctcctc ctcctctcct ctggtcctgg caccctgga gaaagtgcct gctgctgagt  240
cagcagatcc tccccagagt cctcagggag cctctgcctt acccactacc atcagcttca  300
cttgctggag gcaacccaat gagggttcca gcagccaaga agaggaggag gccagcacct  360
cgcctgacgc agagtccttg ttccgagaag cactcagtaa caaggtggat gagttggctc  420
attttctgct ccgcaagtat cgagccaagg agctggtcac aaaggcagaa atgctggaga  480
gagtcatcaa aaattacaag cgctgctttc ctgtgatctt cggcaaagcc tccgagtccc  540
tgaagatgat ctttggcatt gacgtgaagg aagtggaccc cgccagcaac acctacaccc  600
ttgtcacctg cctgggcctt tcctatgatg gcctgctggg taataatcag atctttccca  660
agacaggcct cctgataatc gtcctgggca caattgcaat ggagggcgac agcgcctctg  720
aggaggaaat ctgggaggag ctgggtgtga tggggtgta tgatgggagg gagcacactg  780
tctatgggga gcccaggaaa ctgctcaccc aagattgggt gcaggaaaac tacctggagt  840
accggcaggt acccggcagt aatcctgcgc gctatgagtt cctgtggggt ccaagggctc  900
tggctgaaac cagctatgtg aaagtcctgg agcatgtggt cagggtcaat gcaagagttc  960
gcattgccta cccatccctg cgtgaagcag ctttgttaga ggaggaagag ggagtctgag 1020
ca                                                                 1022
```

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        <210> 812
        <211> 317
        <212> PRT
        <213> Homo Sapiens

        <400> 812
Met Ser Leu Glu Gln Lys Ser Gln His Cys Lys Pro Glu Glu Gly Val
1               5               10              15
Glu Ala Gln Glu Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Thr
            20              25              30
Thr Glu Glu Gln Glu Ala Ala Val Ser Ser Ser Ser Pro Leu Val Leu
```

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```
               35                    40                    45
Gly Thr Leu Glu Lys Val Pro Ala Ala Glu Ser Ala Asp Pro Pro Gln
       50                    55                    60
Ser Pro Gln Gly Ala Ser Ala Leu Pro Thr Thr Ile Ser Phe Thr Cys
65                    70                    75                    80
Trp Arg Gln Pro Asn Glu Gly Ser Ser Ser Gln Glu Glu Glu Glu Ala
                   85                    90                    95
Ser Thr Ser Pro Asp Ala Glu Ser Leu Phe Arg Glu Ala Leu Ser Asn
                  100                   105                   110
Lys Val Asp Glu Leu Ala His Phe Leu Leu Arg Lys Tyr Arg Ala Lys
              115                   120                   125
Glu Leu Val Thr Lys Ala Glu Met Leu Glu Arg Val Ile Lys Asn Tyr
          130                   135                   140
Lys Arg Cys Phe Pro Val Ile Phe Gly Lys Ala Ser Glu Ser Leu Lys
145                   150                   155                   160
Met Ile Phe Gly Ile Asp Val Lys Glu Val Asp Pro Ala Ser Asn Thr
                  165                   170                   175
Tyr Thr Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly
              180                   185                   190
Asn Asn Gln Ile Phe Pro Lys Thr Gly Leu Leu Ile Ile Val Leu Gly
          195                   200                   205
Thr Ile Ala Met Glu Gly Asp Ser Ala Ser Glu Glu Glu Ile Trp Glu
      210                   215                   220
Glu Leu Gly Val Met Gly Val Tyr Asp Gly Arg Glu His Thr Val Tyr
225                   230                   235                   240
Gly Glu Pro Arg Lys Leu Leu Thr Gln Asp Trp Val Gln Glu Asn Tyr
                  245                   250                   255
Leu Glu Tyr Arg Gln Val Pro Gly Ser Asn Pro Ala Arg Tyr Glu Phe
              260                   265                   270
Leu Trp Gly Pro Arg Ala Leu Ala Glu Thr Ser Tyr Val Lys Val Leu
          275                   280                   285
Glu His Val Val Arg Val Asn Ala Arg Val Arg Ile Ala Tyr Pro Ser
      290                   295                   300
Leu Arg Glu Ala Ala Leu Leu Glu Glu Glu Glu Gly Val
305                   310                   315
```

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        <211> 5175
        <212> DNA
        <213> Homo Sapiens


        <400> 813
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aggcaaagga gaaacagctc tgacatacaa agaaaatgag tatgctaaag ccaagtgggc   180
ttaaggcccc caccaagatc ctgaagcctg gaagcacagc tctgaagaca cctacggctg   240
ttgtagctcc agtagaaaaa accatatcca gtgaaaaagc atcaagcact ccatcatctg   300
agactcagga ggaatttgtg gatgactttc gagttgggga gcgagtttgg gtgaatggaa   360
ataagcctgg atttatccag tttcttggag aaacccagtt tgcaccaggc cagtgggctg   420
gaattgtttt agatgaaccc ataggcaaga cgatggttc ggtggcagga gttcggtatt   480
tccagtgtga acctttaaag ggcatattta cccgaccttc aaagttaaca aggaaggtgc   540
aagcagaaga tgaagctaat ggcctgcaga caacgcccgc ctcccgagct acttcaccgc   600
tgtgcacttc tacggccagc atggtgtctt cctcccccctc cacccctca aacatccctc   660
agaaaccatc acagccagca gcaaaggaac cttcagctac gcctccgatc agcaacctta   720
caaaaactgc cagtgaatct atctccaacc tttcagaggc tggctcaatc aagaaaggag   780
```

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aaagagagct  caaaatcgga  gacagagtat  tggttggtgg  cactaaggct  ggtgtagtcc   840
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cacttgggaa  gaatgatggc  gctgttgctg  gaacaaggta  ttttcagtgt  caacccaaat   960
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<211> 1392
<212> PRT.
<213> Homo Sapiens

<400> 814
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            20                  25                  30
Val Glu Lys Thr Ile Ser Ser Glu Lys Ala Ser Ser Thr Pro Ser Ser
        35                  40                  45
Glu Thr Gln Glu Glu Phe Val Asp Asp Phe Arg Val Gly Glu Arg Val
    50                  55                  60
Trp Val Asn Gly Asn Lys Pro Gly Phe Ile Gln Phe Leu Gly Glu Thr
65                  70                  75                  80
Gln Phe Ala Pro Gly Gln Trp Ala Gly Ile Val Leu Asp Glu Pro Ile
                85                  90                  95
Gly Lys Asn Asp Gly Ser Val Ala Gly Val Arg Tyr Phe Gln Cys Glu
            100                 105                 110
Pro Leu Lys Gly Ile Phe Thr Arg Pro Ser Lys Leu Thr Arg Lys Val
        115                 120                 125
Gln Ala Glu Asp Glu Ala Asn Gly Leu Gln Thr Thr Pro Ala Ser Arg
    130                 135                 140
Ala Thr Ser Pro Leu Cys Thr Ser Thr Ala Ser Met Val Ser Ser Ser
145                 150                 155                 160
Pro Ser Thr Pro Ser Asn Ile Pro Gln Lys Pro Ser Gln Pro Ala Ala
                165                 170                 175
Lys Glu Pro Ser Ala Thr Pro Pro Ile Ser Asn Leu Thr Lys Thr Ala
            180                 185                 190
Ser Glu Ser Ile Ser Asn Leu Ser Glu Ala Gly Ser Ile Lys Lys Gly
        195                 200                 205
Glu Arg Glu Leu Lys Ile Gly Asp Arg Val Leu Val Gly Gly Thr Lys
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          210                 215                 220
Ala Gly Val Val Arg Phe Leu Gly Glu Thr Asp Phe Ala Lys Gly Glu
225                 230                 235                 240
Trp Cys Gly Val Glu Leu Asp Glu Pro Leu Gly Lys Asn Asp Gly Ala
                245                 250                 255
Val Ala Gly Thr Arg Tyr Phe Gln Cys Gln Pro Lys Tyr Gly Leu Phe
                260                 265                 270
Ala Pro Val His Lys Val Thr Lys Ile Gly Phe Pro Ser Thr Thr Pro
                275                 280                 285
Ala Lys Ala Lys Ala Asn Ala Val Arg Arg Val Met Ala Thr Thr Ser
                290                 295                 300
Ala Ser Leu Lys Arg Ser Pro Ser Ala Ser Ser Leu Ser Ser Met Ser
305                 310                 315                 320
Ser Val Ala Ser Ser Val Ser Ser Arg Pro Ser Arg Thr Gly Leu Leu
                325                 330                 335
Thr Glu Thr Ser Ser Arg Tyr Ala Arg Lys Ile Ser Gly Thr Thr Ala
                340                 345                 350
Leu Gln Glu Ala Leu Lys Glu Lys Gln Gln His Ile Glu Gln Leu Leu
                355                 360                 365
Ala Glu Arg Asp Leu Glu Arg Ala Glu Val Ala Lys Ala Thr Ser His
                370                 375                 380
Val Gly Glu Ile Glu Gln Glu Leu Ala Leu Ala Arg Asp Gly His Asp
385                 390                 395                 400
Gln His Val Leu Glu Leu Glu Ala Lys Met Asp Gln Leu Arg Thr Met
                405                 410                 415
Val Glu Ala Ala Asp Arg Glu Lys Val Glu Leu Leu Asn Gln Leu Glu
                420                 425                 430
Glu Glu Lys Arg Lys Val Glu Asp Leu Gln Phe Arg Val Glu Glu Glu
                435                 440                 445
Ser Ile Thr Lys Gly Asp Leu Glu Val Ala Thr Val Ser Glu Lys Ser
450                 455                 460
Arg Ile Met Glu Leu Glu Lys Asp Leu Ala Leu Arg Val Gln Glu Val
465                 470                 475                 480
Ala Glu Leu Arg Arg Arg Leu Glu Ser Asn Lys Pro Ala Gly Asp Val
                485                 490                 495
Asp Met Ser Leu Ser Leu Leu Gln Glu Ile Ser Ser Leu Gln Glu Lys
                500                 505                 510
Leu Glu Val Thr Arg Thr Asp His Gln Arg Glu Ile Thr Ser Leu Lys
                515                 520                 525
Glu His Phe Gly Ala Arg Glu Glu Thr His Gln Lys Glu Ile Lys Ala
                530                 535                 540
Leu Tyr Thr Ala Thr Glu Lys Leu Ser Lys Glu Asn Glu Ser Leu Lys
545                 550                 555                 560
Ser Lys Leu Glu His Ala Asn Lys Glu Asn Ser Asp Val Ile Ala Leu
                565                 570                 575
Trp Lys Ser Lys Leu Glu Thr Ala Ile Ala Ser His Gln Gln Ala Met
                580                 585                 590
Glu Glu Leu Lys Val Ser Phe Ser Lys Gly Leu Gly Thr Glu Thr Ala
                595                 600                 605
Glu Phe Ala Glu Leu Lys Thr Gln Ile Glu Lys Met Arg Leu Asp Tyr
                610                 615                 620
Gln His Glu Ile Glu Asn Leu Gln Asn Gln Gln Asp Ser Glu Arg Ala
625                 630                 635                 640
Ala His Ala Lys Glu Met Glu Ala Leu Arg Ala Lys Leu Met Lys Val
                645                 650                 655
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Ile Lys Glu Lys Glu Asn Ser Leu Glu Ala Ile Arg Ser Lys Leu Asp
              660                 665                 670
Lys Ala Glu Asp Gln His Leu Val Glu Met Glu Asp Thr Leu Asn Lys
        675                 680                 685
Leu Gln Glu Ala Glu Ile Lys Val Lys Glu Leu Glu Val Leu Gln Ala
        690                 695                 700
Lys Cys Asn Glu Gln Thr Lys Val Ile Asp Asn Phe Thr Ser Gln Leu
705                 710                 715                 720
Lys Ala Thr Glu Glu Lys Leu Leu Asp Leu Asp Ala Leu Arg Lys Ala
              725                 730                 735
Ser Ser Glu Gly Lys Ser Glu Met Lys Lys Leu Arg Gln Gln Leu Glu
              740                 745                 750
Ala Ala Glu Lys Gln Ile Lys His Leu Glu Ile Glu Lys Asn Ala Glu
              755                 760                 765
Ser Ser Lys Ala Ser Ser Ile Thr Arg Glu Leu Gln Gly Arg Glu Leu
        770                 775                 780
Lys Leu Thr Asn Leu Gln Glu Asn Leu Ser Glu Val Ser Gln Val Lys
785                 790                 795                 800
Glu Thr Leu Glu Lys Glu Leu Gln Ile Leu Lys Glu Lys Phe Ala Glu
              805                 810                 815
Ala Ser Glu Glu Ala Val Ser Val Gln Arg Ser Met Gln Glu Thr Val
              820                 825                 830
Asn Lys Leu His Gln Lys Glu Glu Gln Phe Asn Met Leu Ser Ser Asp
              835                 840                 845
Leu Glu Lys Leu Arg Glu Asn Leu Ala Asp Met Glu Ala Lys Phe Arg
        850                 855                 860
Glu Lys Asp Glu Arg Glu Glu Gln Leu Ile Lys Ala Lys Glu Lys Leu
865                 870                 875                 880
Glu Asn Asp Ile Ala Glu Ile Met Lys Met Ser Gly Asp Asn Ser Ser
              885                 890                 895
Gln Leu Thr Lys Met Asn Asp Glu Leu Arg Leu Lys Glu Arg Asp Val
              900                 905                 910
Glu Glu Leu Gln Leu Lys Leu Thr Lys Ala Asn Glu Asn Ala Ser Phe
              915                 920                 925
Leu Gln Lys Ser Ile Glu Asp Met Thr Val Lys Ala Glu Gln Ser Gln
        930                 935                 940
Gln Glu Ala Ala Lys Lys His Glu Glu Glu Lys Lys Glu Leu Glu Arg
945                 950                 955                 960
Lys Leu Ser Asp Leu Glu Lys Lys Met Glu Thr Ser His Asn Gln Cys
              965                 970                 975
Gln Glu Leu Lys Ala Arg Tyr Glu Arg Ala Thr Ser Glu Thr Lys Thr
              980                 985                 990
Lys His Glu Glu Ile Leu Gln Asn Leu Gln Lys Thr Leu Leu Asp Thr
        995                 1000                1005
Glu Asp Lys Leu Lys Gly Ala Arg Glu Glu Asn Ser Gly Leu Leu Gln
   1010                1015                1020
Glu Leu Glu Glu Leu Arg Lys Gln Ala Glu Lys Ala Lys Ala Ala Gln
1025                1030                1035                104
Thr Ala Glu Asp Ala Met Gln Ile Met Glu Gln Met Thr Lys Glu Lys
              1045                1050                1055
Thr Glu Thr Leu Ala Ser Leu Glu Asp Thr Lys Gln Thr Asn Ala Lys
        1060                1065                1070
Leu Gln Asn Glu Leu Asp Thr Leu Lys Glu Asn Asn Leu Lys Asn Val
        1075                1080                1085
Glu Glu Leu Asn Lys Ser Lys Glu Leu Leu Thr Val Glu Asn Gln Lys
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      1090                1095                1100
Met Glu Glu Phe Arg Lys Glu Ile Glu Thr Leu Lys Gln Ala Ala Ala
1105                    1110                1115                112
Gln Lys Ser Gln Gln Leu Ser Ala Leu Gln Glu Glu Asn Val Lys Leu
                  1125                1130                1135
Ala Glu Glu Leu Gly Arg Ser Arg Asp Glu Val Thr Ser His Gln Lys
              1140                1145                1150
Leu Glu Glu Glu Arg Ser Val Leu Asn Asn Gln Leu Leu Glu Met Lys
          1155                1160                1165
Lys Arg Glu Ser Lys Phe Ile Lys Asp Ala Asp Glu Glu Lys Ala Ser
      1170                1175                1180
Leu Gln Lys Ser Ile Ser Ile Thr Ser Ala Leu Leu Thr Glu Lys Asp
1185                1190                1195                120
Ala Glu Leu Glu Lys Leu Arg Asn Glu Val Thr Val Leu Arg Gly Glu
                  1205                1210                1215
Asn Ala Ser Ala Lys Ser Leu His Ser Val Val Gln Thr Leu Glu Ser
                  1220                1225                1230
Asp Lys Val Lys Leu Glu Leu Lys Val Lys Asn Leu Glu Leu Gln Leu
              1235                1240                1245
Lys Glu Asn Lys Arg Gln Leu Ser Ser Ser Ser Gly Asn Thr Asp Thr
          1250                1255                1260
Gln Ala Asp Glu Asp Glu Arg Ala Gln Glu Ser Gln Ile Asp Phe Leu
1265                1270                1275                128
Asn Ser Val Ile Val Asp Leu Gln Arg Lys Asn Gln Asp Leu Lys Met
                  1285                1290                1295
Lys Val Glu Met Met Ser Glu Ala Ala Leu Asn Gly Asn Gly Asp Asp
              1300                1305                1310
Leu Asn Asn Tyr Asp Ser Asp Asp Gln Glu Lys Gln Ser Lys Lys Lys
          1315                1320                1325
Pro Arg Leu Phe Cys Asp Ile Cys Asp Cys Phe Asp Leu His Asp Thr
      1330                1335                1340
Glu Asp Cys Pro Thr Gln Ala Gln Met Ser Glu Asp Pro Pro His Ser
1345                1350                1355                136
Thr His His Gly Ser Arg Gly Glu Glu Arg Pro Tyr Cys Glu Ile Cys
              1365                1370                1375
Glu Met Phe Gly His Trp Ala Thr Asn Cys Asn Asp Asp Glu Thr Phe
              1380                1385                1390
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<210> 815
<211> 647
<212> DNA
<213> Homo Sapiens

<400> 815
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ccacgcgtcc gcctcccgtt ccctcttccg cttgcgctgc cgcaggacca tggccaacct    60
ggagcgcacc ttcatcgcca tcaagccgga cggcgtgcag cgcggcctgg tgggcgagat   120
catcaagcgc ttcgagcaga agggattccg cctcgtggcc atgaagttcc tccgggcctc   180
tgaagaacac ctgaagcagc actacattga cctgaaagac cgaccattct ccctgggct    240
ggtgaagtac atgaactcag ggccggttgt ggccatggtc tgggaggggc tgaacgtggt   300
gaagacaggc cgagtgatgc ttggggagac caatccagca gattcaaagc caggcaccat   360
tcgtggggac ttctgcattc aggttggcag gaacatcatt catggcagtg attcagtaaa   420
aagtgctgaa aaagaaatca gcctatggtt taagcctgaa gaactggttg actacaagtc   480
ttgtgctcat gactgggtct atgaataaga ggtggacaca acagcagtct ccttcagcac   540
ggcgtggtgt gtccctggac acagctcttc attccattga cttagaggca acaggattga   600
tcattctttt atagagcata tttgccaata aagcttttgg aagccgg                 647
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<210> 816
<211> 152
<212> PRT
<213> Homo Sapiens

<400> 816
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Met Ala Asn Leu Glu Arg Thr Phe Ile Ala Ile Lys Pro Asp Gly Val
1                   5                   10                  15
Gln Arg Gly Leu Val Gly Glu Ile Ile Lys Arg Phe Glu Gln Lys Gly
                20                  25                  30
Phe Arg Leu Val Ala Met Lys Phe Leu Arg Ala Ser Glu Glu His Leu
        35                  40                  45
Lys Gln His Tyr Ile Asp Leu Lys Asp Arg Pro Phe Phe Pro Gly Leu
    50                  55                  60
Val Lys Tyr Met Asn Ser Gly Pro Val Val Ala Met Val Trp Glu Gly
65                  70                  75                  80
Leu Asn Val Val Lys Thr Gly Arg Val Met Leu Gly Glu Thr Asn Pro
                85                  90                  95
Ala Asp Ser Lys Pro Gly Thr Ile Arg Gly Asp Phe Cys Ile Gln Val
                100                 105                 110
Gly Arg Asn Ile Ile His Gly Ser Asp Ser Val Lys Ser Ala Glu Lys
        115                 120                 125
Glu Ile Ser Leu Trp Phe Lys Pro Glu Glu Leu Val Asp Tyr Lys Ser
    130                 135                 140
Cys Ala His Asp Trp Val Tyr Glu
145                 150
```